

#5637711

REPORT NUMBER: 201U-CAL-05-03

**SAFETY COMPLIANCE TESTING FOR FMVSS 201
OCCUPANT PROTECTION IN INTERIOR IMPACT
UPPER INTERIOR HEAD IMPACT PROTECTION**

**TOYOTA MOTOR CORPORATION
2005 TOYOTA SCION xB**

NHTSA NUMBER: C55105

CALSPAN TEST NUMBER: 8754-FMH-03

CALSPAN
TRANSPORTATION SCIENCES CENTER
P.O. BOX 400
BUFFALO, NEW YORK 14225



Test Date: March 3, 2005

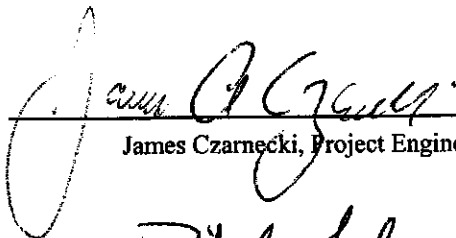
FINAL REPORT

PREPARED FOR:

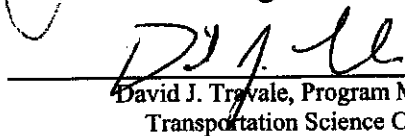
U U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
Mail Code: NVS-220, Room 6111
400 Seventh Street, SW
Washington, DC 20590

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16. Abstract Compliance tests were conducted on the subject vehicle, a 2005 Toyota Scion xB, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure TP-201U-01 for determination of FMVSS 201 compliance. Test failures identified were as follows in the table below:					
Target Point	Horizontal	Vertical	Velocity	HIC	HICd
None	-	-	-	-	-
None	-	-	-	-	-
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SECTION 1

PURPOSE AND TEST PROCEDURE

This head impact compliance test is part of the FMVSS 201 Upper Interior Head Impact Protection Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-04-C-01027. The purpose of this head impact compliance test was to determine whether the subject vehicle, a 2005 Toyota Scion xB, NHTSA No. C55105, meets the performance requirements of FMVSS 201, Occupant Protection in Interior Impact. The compliance test was conducted in accordance with the OVSC Laboratory Test Procedure No. TP-201U-01 dated April 03, 1998.

SECTION 2

SUMMARY OF UPPER INTERIOR HEAD IMPACTS

A 2005 Toyota Scion xB, NHTSA No.C55105 , was impacted at various locations throughout its upper interior by a 4.54 kg 50th percentile headform. A total of twelve (12) impacts were performed in this test series. The target area impacts were chosen by the NHTSA Contracting Officers Technical Representative (COTR). A summary of test results can be found on data sheet 2-1. The twelve (12) area chosen for testing were:

RP1	OPI	SR3	BP4	BP1
AP3	API	AP2	FH1	SR1
BP3	URBP			

The selected impact areas on the test vehicle appeared to comply with the performance requirements of FMVSS 201.

Five Free Motion Headforms (FMH), were used in this test series. All five FMH's were calibrated prior to and after the test series. Calibration information are included in Appendix B. Each FMH weighed 4.54 ± 0.5 kg and has an orthogonal tri-axis accelerometer pack mounted at the center of gravity (c.g.).

A total of three (3) channels of data for each target impact test are recorded on a Keyser-Threde data acquisition system. Data plots along with still photographs can be found in Section 3 of this report.

To document each target area impact test, one Weinberger high-speed video camera was placed at various locations to view the headform contact with the selected target area.

DATA SHEET 2-1

SUMMARY OF UPPER INTERIOR HEAD IMPACT TESTS

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

TARGET CODE	Target Coordinates				Approach Angles (degrees)		Velocity (kph)	FMH HIC	HIC(d)
	Driver Side		Passenger Side		Horizontal	Vertical			
AP1	X(mm)	Y(mm)	Z(mm)	X(mm)	Y(mm)	Z(mm)			
AP1 REL2	1799.57	-575.51	2224.34	1800.01	572.66	2226.02	Relocated 2 circles	-	-
AP2	1811.86	-574.70	2213.59	1839.20	570.39	2206.06	130°	23.75	505.6
AP3	1805.77	-594.99	2137.07	1811.29	591.27	2138.84	216°	23.71	370.1
BP1	1708.14	-614.50	2024.38	1710.58	610.60	2024.04	139°	23.82	424.2
BP1 REL1	2508.66	-539.22	2304.19	2507.60	538.99	2301.86	Relocated 1 circle	-	-
BP2	2508.22	-518.31	2311.59	2509.61	518.49	2310.00	90°	23.60	885.4
BP3	2504.16	-584.74	2030.06	2508.23	585.77	2022.81	-	-	-
BP3 REL2	2470.20	-612.16	2055.13	2471.66	611.98	2052.13	Relocated 2 circles	-	-
BP4	2462.29	-616.79	2036.70	2462.95	617.42	2032.50	270°	23.65	517.5
FH1	2568.79	-635.34	1930.14	2570.67	637.51	1930.94	108°	23.79	343
FH1 REL1	1699.10	-499.50	2254.64	1700.85	491.81	2254.10	Relocated 1 circle	-	-
FH2	1687.38	-480.17	2252.60	1688.02	471.46	2252.63	180°	23.81	906.2
OP1	1646.26	-350.86	2257.44	1647.32	346.98	2257.35	-	-	-
OP2	3395.45	-589.53	2110.79	3391.51	595.28	2104.40	90°	23.57	843.9
RH	3400.09	-620.83	2060.02	3397.79	625.52	2059.14	-	-	-
RP1	3781.84	-331.56	2287.45	3785.30	329.81	2282.73	-	-	-
RP2	3712.42	-529.80	2259.45	3723.24	531.41	2254.49	45°	23.62	736.8
SR1	3782.06	-596.39	2108.76	3784.96	598.08	2104.34	-	-	-
SR1 REL1	1950.12	-548.08	2269.50	1949.12	544.52	2268.97	Relocated 1 circle	-	-
SR2A	1968.61	-557.13	2259.16	1966.26	552.87	2257.68	270°	23.75	275.7
SR2B	2099.47	-544.88	2279.91	2099.65	539.58	2280.68	-	-	-
	2209.78	-547.34	2282.97	2208.60	544.51	2282.20	Relocated 2 circles	-	-

SR2B REL2	2207.28	-541.58	2235.77	2207.29	538.82	2233.65	-	-	-	-	-
SR3	3078.18	-536.88	2240.14	3077.78	538.26	2241.70	90°	50°	23.45	797.9	768.4
UR AP	1929.09	-422.92	2293.74	1941.75	417.04	2295.69	-	-	-	-	-
URBP	2509.97	-401.91	2321.29	2515.59	398.80	2318.59	270°	50°	23.87	400.6	468.6
URBP	3396.47	-407.01	2325.59	3367.45	399.61	2324.34	-	-	-	-	-
URRP	3523.66	-422.74	2321.60	3532.13	418.05	2318.71	-	-	-	-	-
URRSR	3134.15	-411.78	2324.77	3131.16	405.49	2323.73	-	-	-	-	-
URFSR	2213.19	-407.85	2320.38	2227.08	406.69	2319.78	-	-	-	-	-

*HIC(d)=0.75446(Free Motion Headform HIC)+166.4

Rear Pillar and Rear Header excluded per s6.3(b)

DATA SHEET 2-2

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:									
Year/Make/Model/Body Style:				2005 Toyota Scion Xb					
VIN:				JTLKT334254011280					
Month & Year of Manufacture:				11/04(SEE CERTIFICATION LABEL)					
Vehicle Body Color:				Green					
Engine Data:	4	Cylinders;	-	CID;	1.5	Liters;	-	cc	
Engine Placement:		x	Longitudinal;	or		-	Lateral		
Transmission:	5	Speed;	x	Manual;	-	Automatic;	-	Overdrive	
Final Drive:	-	Rear Wheel Drive;	x	Front Wheel Drive;	-	Four Wheel Drive			
Odometer Reading:		90	km						
Options:	x	A/C;	x	Power Steering;	x	Pwr.Brakes;	x	Pwr. Windows	
Interior Trim Information :									
1. B-pillars have adjustable seat belt anchorages.									
2. Other pillars have non-adjustable seat belt anchorages.									
3. Grab handles are located on all front and 2 nd row outboard side rails.									

DATA FROM TIRE PLACARD:									
Tire Pressure (at capacity);				200		kPa FRONT			
				200		kPa REAR			
Recommended Tire Size:				P185/60R15					
Tires on Test Vehicle:		P185/60R15		Manufacturer:			Goodyear		
Vehicle Capacity Data:									
Number of Occupants:	2	Front;	3	Rear;	-	3rd Seat;	5	Total	
Type of Front Seats:	x	Bucket;	-	Bench;	-	Split Bench			
Type of Front Seat Back:	-	Fixed;	x	Adjustable with	x	Lever or	-	Knob	
Vehicle Capacity Weight (VCW)=				375		kg (A)			
No. of Occupants x 68 kg. =				340		kg (B)			
Rated Cargo/Luggage Weight (RCLW) =				35		kg (A-B) Max. RCLW = 136 kg.			

DATA SHEET 2-2

GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:					
Left Front	=	323	kg	Left Rear	= 228 kg
Right Front	=	314	kg	Right Rear	= 232 kg
TOTAL FRONT	=	637	kg	TOTAL REAR	= 460 kg
% of Total Weight	=	58.1	%	% of Total Weight	= 41.9 %
TOTAL WEIGHT	=	1097	kg		

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:		
Total Test Vehicle Delivered Weight=	1097	kg (A)
+ Rated Cargo/Luggage Weight =	35	kg (B)
TEST VEHICLE TARGET WEIGHT =	1132	kg (A+B)

WEIGHT OF TEST VEHICLE (FULLY LOADED):					
Left Front	=	320	kg	Left Rear	= 240 kg
Right Front	=	315	kg	Right Rear	= 250 kg
TOTAL FRONT	=	635	kg	TOTAL REAR	= 490 kg
% of Total Weight	=	56.4	%	% of Total Weight	= 43.6 %
TOTAL TEST WEIGHT	=	1125			
Weight of vehicle secured in test vehicles cargo area	=	27	kg		

TEST VEHICLE ATTITUDE (all dimensions in millimeters):				
AS DELIVERED:	Left Front	696	Left Rear	684
	Right Front	693	Right Rear	687
FULLY LOADED:	Left Front	695	Left Rear	677
	Right Front	692	Right Rear	679
Test Vehicle Wheelbase:	2490	Millimeters		

TEST VEHICLE PITCH AND ROLL ANGLES:				
AS DELIVERED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	↑0.2	Front Bumper	↑0.1
	Right Door Sill	↓0.1	Rear Bumper	↓0.2
FULLY LOADED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	0.0	Front Bumper	↑0.1
	Right Door Sill	0.0	Rear Bumper	↓0.1
AS TESTED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	↑0.1	Front Bumper	↑0.1
	Right Door Sill	↓0.1	Rear Bumper	↓0.2

DATA SHEET 2-3

APPROACH ANGLE LIMITS

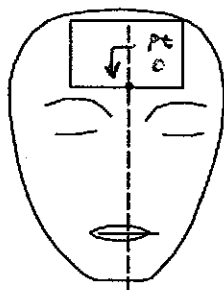
Target Code	Left Side		Vertical Angles (deg.)		Target Code	Right Side		Vertical Angles (deg.)	
	Minimum	Maximum	Minimum	Maximum		Minimum	Maximum	Minimum	Maximum
AP1	201	248	-5	0	AP1	112	159	-5	0
AP2	201	248	-5	30	AP2	112	159	-5	30
AP3	201	248	-5	23	AP3	112	159	-5	25
BP1	202	275	-10	25	BP1	85	158	-10	25
BP2	270		0	9	BP2	90		0	9
BP3	202	275	-10	10	BP3	85	158	-10	10
BP4	202	275	-10	-10	BP4	85	158	-10	-10
OP1	270		0	0	OP1	90		0	0
OP2	270		-10	-10	OP2	90		0	-10
RP1	270	345	-10	9	RP1	15	90	-10	9
RP2	270	345	-10	-	RP2	15	90	-10	-
FH1	180		0	45	FH1	180		0	45
FH2	180		0	41	FH2	180		0	41
RH	360		0	50	RH	0		0	50
SR1	270		0	8	SR1	90		0	8
SR2A	270		0	17	SR2A	90		0	17
SR2B	270		0	11	SR2B	90		0	11
SR3	270		0	50	SR3	90		0	50
URAP	ANY		0	50	URAP	ANY		0	50
URBP	ANY		0	50	URBP	ANY		0	50
URRP	ANY		0	50	URRP	ANY		0	50

Note : BP2 target location – Seat belt anchorage
 OP1 target location – Seat belt anchorage
 Rear Pillar and Rear Header excluded per s6.3(b)

DATA SHEET 2-4

SUMMARY TARGET IMPACT LOCATION ON FMH

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion Xb
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green



RIGHT SIDE OF FACE

TARGET	Distance Above Point O (mm)	Distance Over From Pt. O (mm)
RP1	65	4 RIGHT
OP1	15	2 LEFT
SR3	18	8 RIGHT
BP4	2	44 LEFT
BP1	85	2 RIGHT
AP3	12	0
AP1	5	35 RIGHT
AP2	19	0
FH1	20	10 LEFT
SR1	25	25 LEFT
BP3	0	10 LEFT
URBP	38	7 LEFT

SECTION 3

SUMMARY OF TEST RESULTS AND DATA PLOTS

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	01
Test Date:	03/02/05
Target Location:	Rear Pillar
Target Code:	RP1
Horizontal Impact Angle:	45°
Vertical Impact Angle:	9°
Ambient Temperature:	24 C°
Relative Humidity:	18
Time of Impact:	9:40
Headform Number:	0062

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	4	☒ mm right	☐ mm left
On Centerline	65	mm up	



POST-IMPACT RP1 HEADFORM

Free Motion HIC	736.8
HIC(d)	722.3
Impact Velocity (kph)	23.62
HIC T1 (msec)	6.0
HIC T2 (msec)	13.9

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - RP1

FMH Headform 0062

Location: RP1

Test Date: March 02, 2005

Work File: RP1

TEST RESULTS

Lab Temperature: 24 C

HICd: 722.3

Lab Humidity: 18 %

HIC (36ms): 736.8

Velocity at Impact: 23.62 KPH

t1: 6.0 msec

t2: 13.9 msec

Free Flight Distance: 205.66 mm

Duration: 7.9 msec

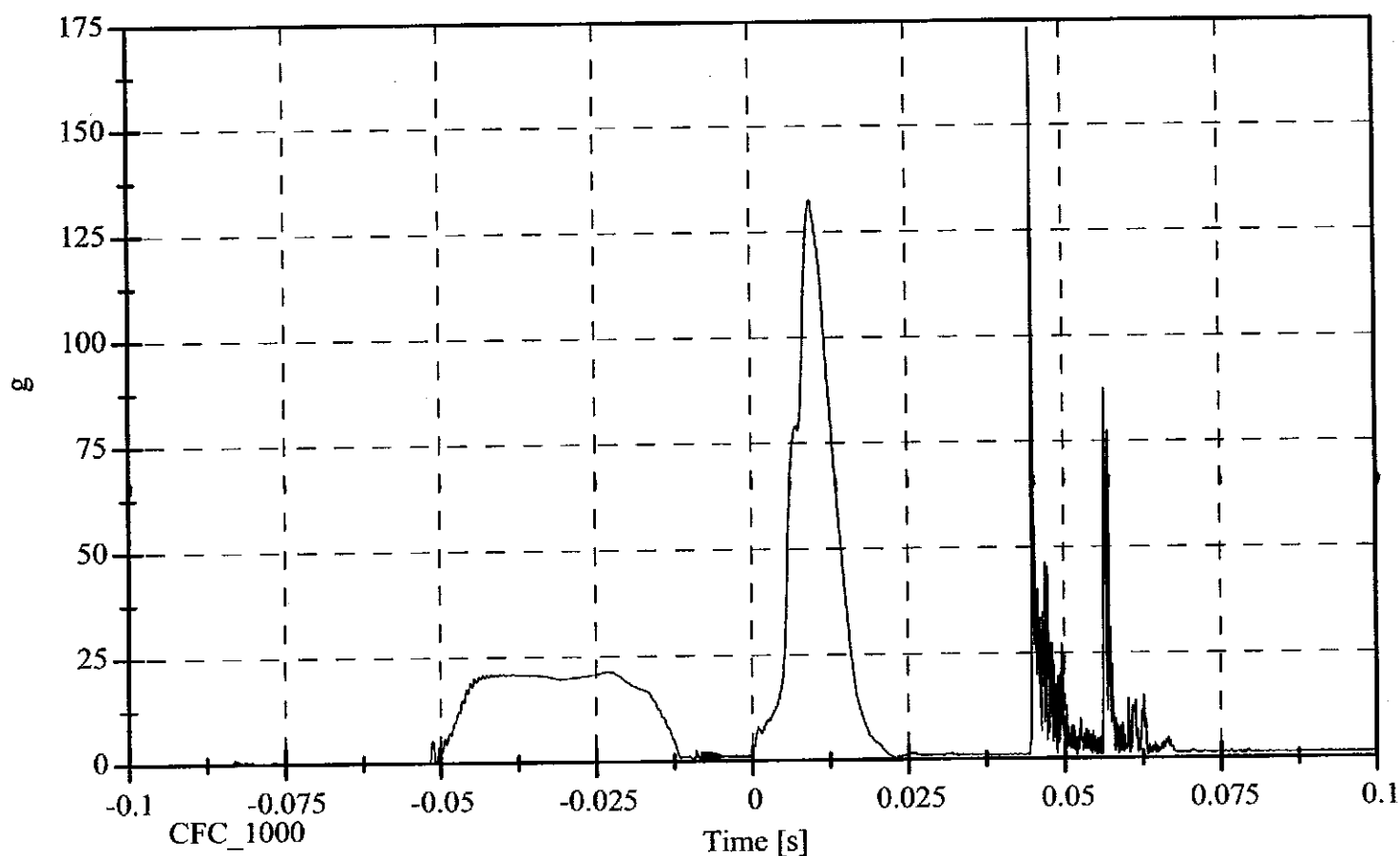
Maximum: 132.4 g

Average Acceleration: 10.2 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 132.4 [g] at 0.010 [s]

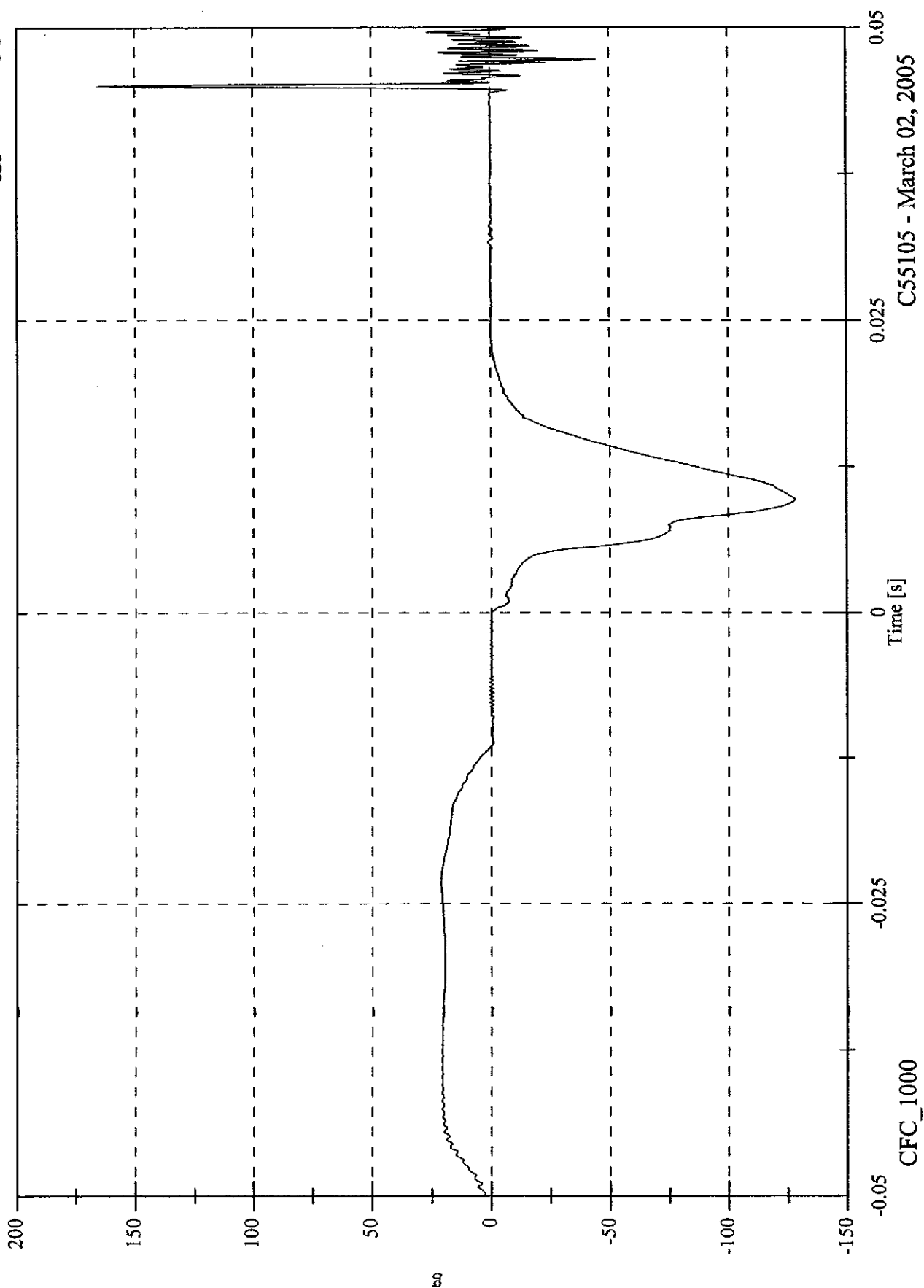
Min: 0.0 [g] at -0.062 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

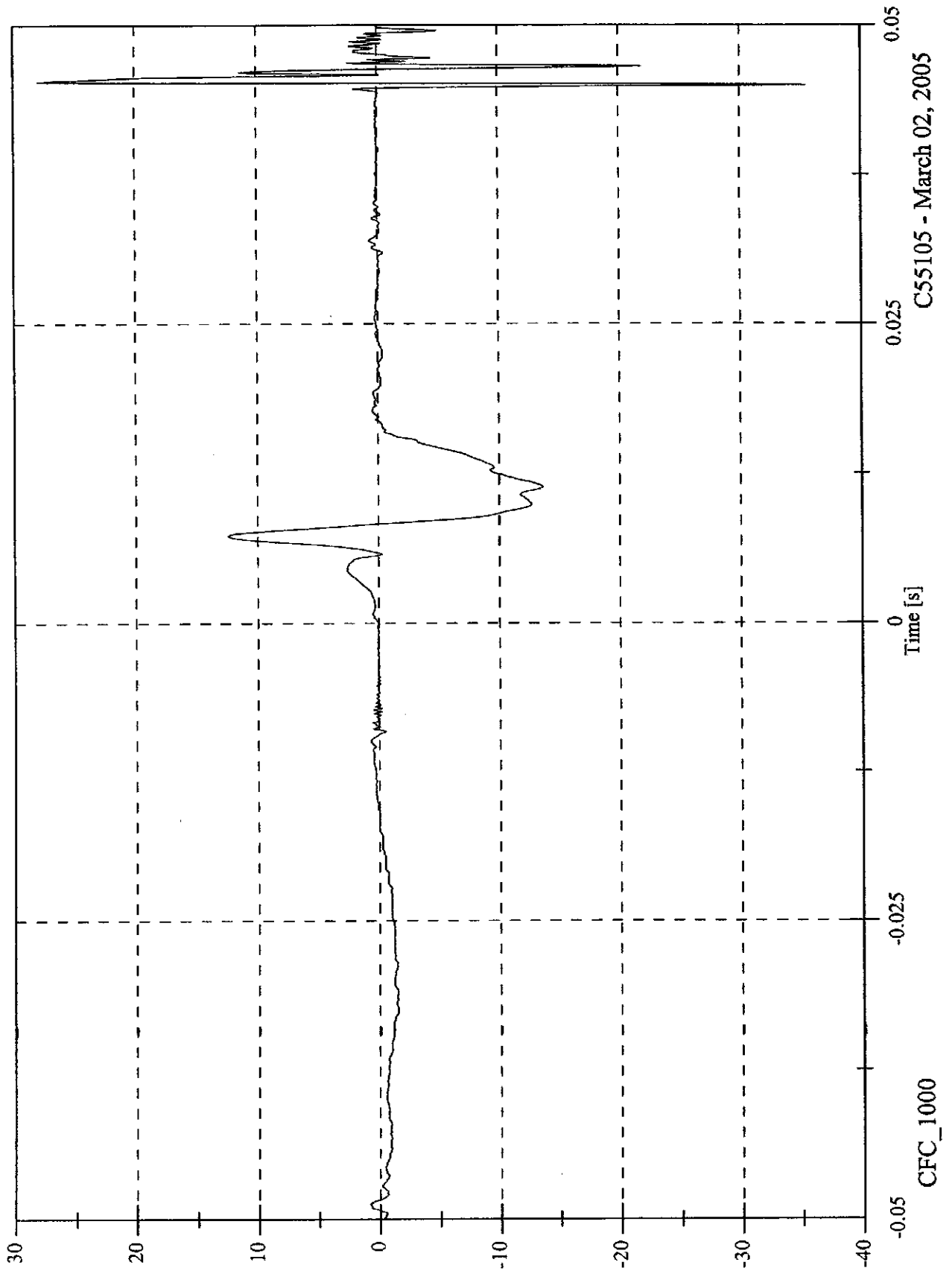
Max: 166.1 [g] at 0.045 [s]
Min: -128.3 [g] at 0.010 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

Max: 27.9 [g] at 0.045 [s]
Min: -35.5 [g] at 0.045 [s]

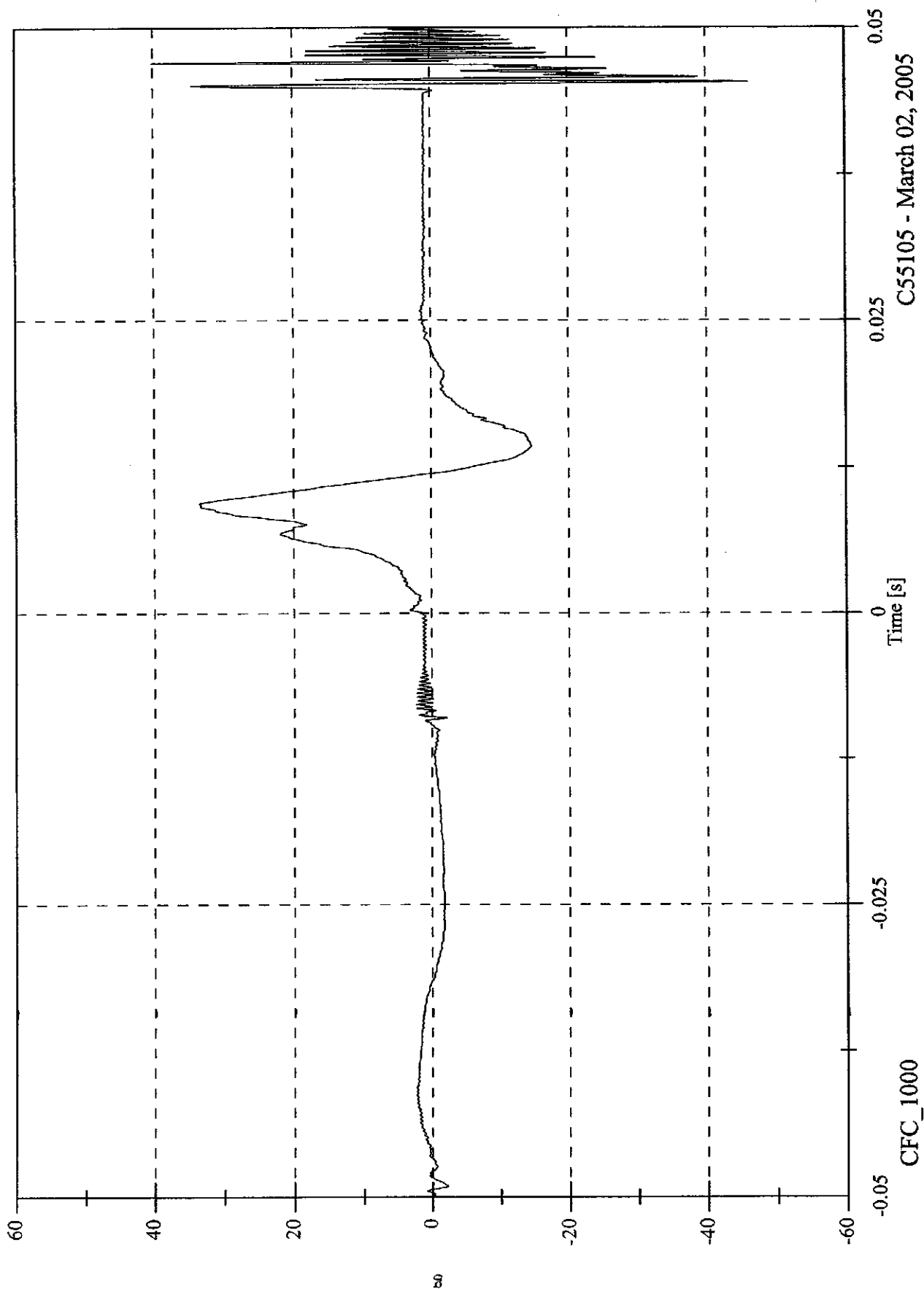


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FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

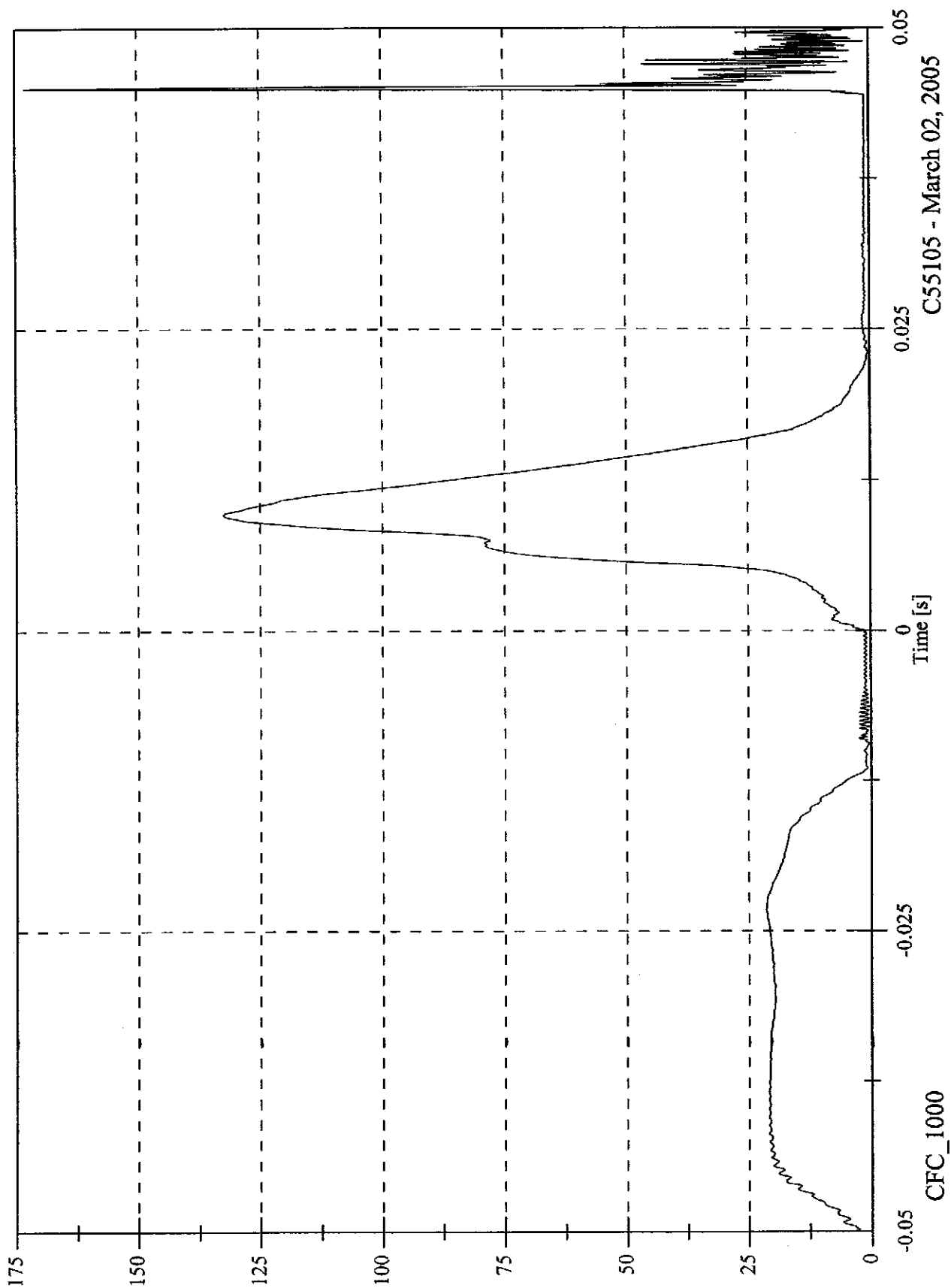
Max: 40.1 [g] at 0.047 [s]
Min: -46.1 [g] at 0.045 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

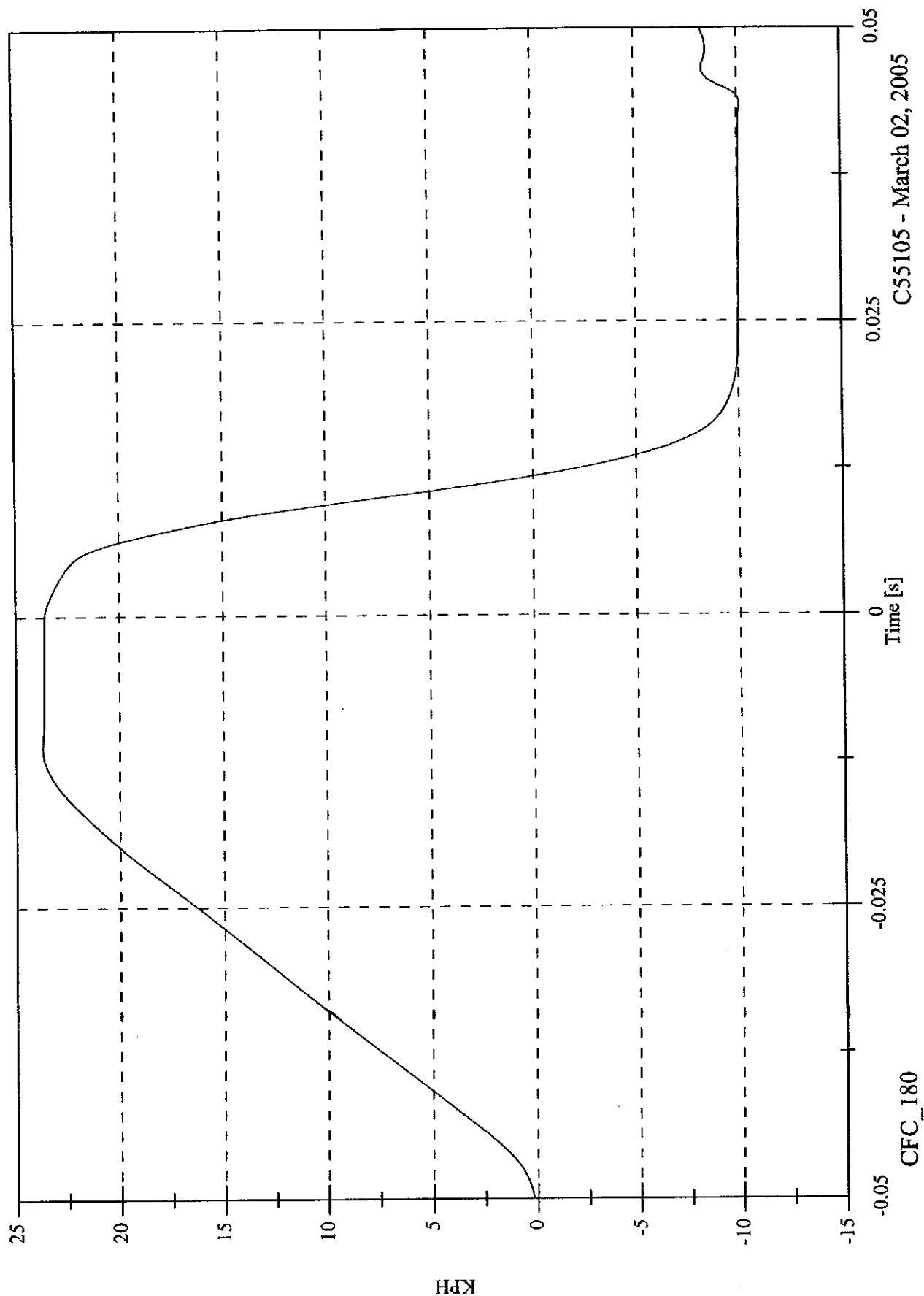
Max: 173.1 [g] at 0.045 [s]
Min: 0.2 [g] at -0.008 [s]



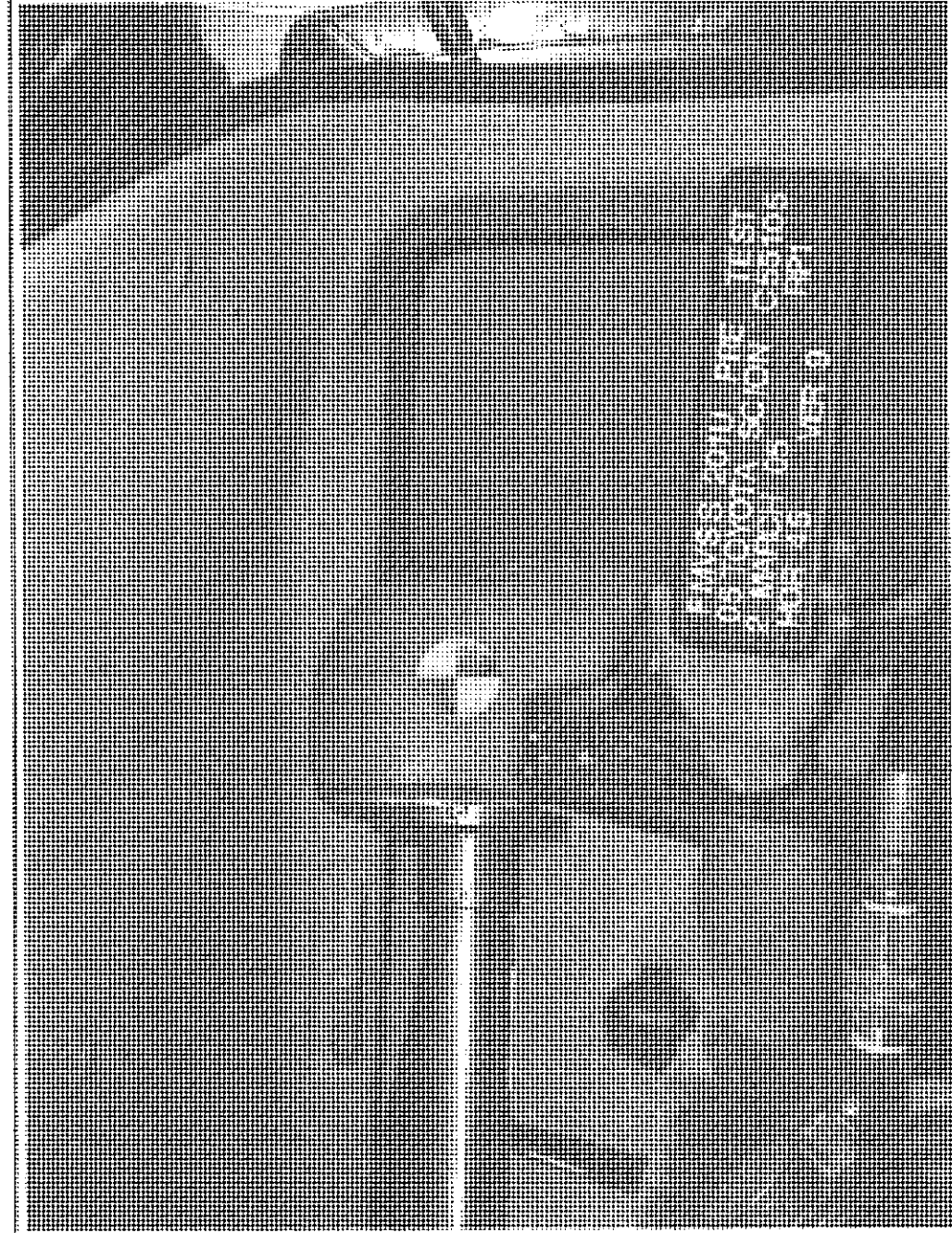
Max: 23.7 [KPH] at -0.011 [s]
Min: -10.1 [KPH] at 0.044 [s]

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

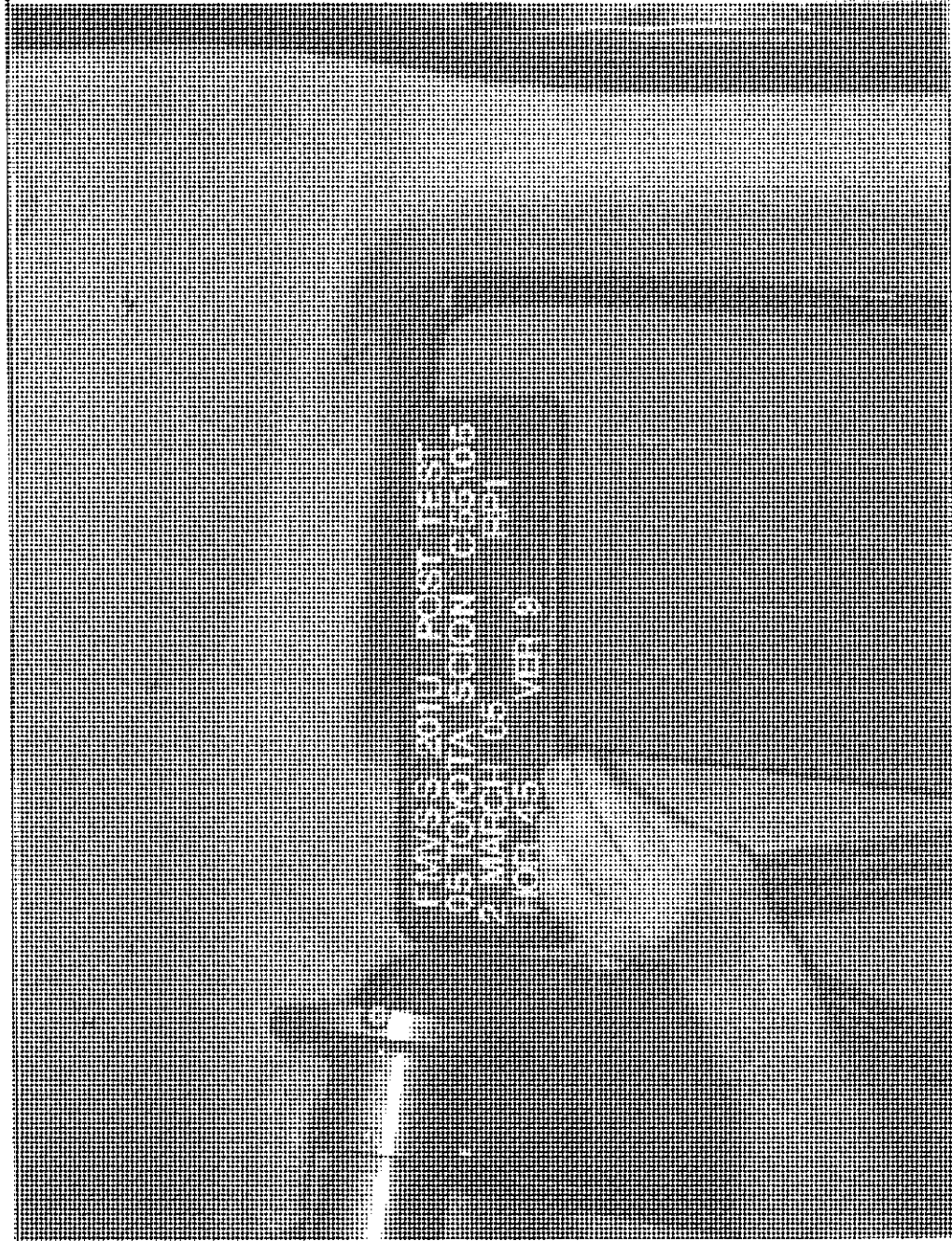
Headform Velocity



CFC_180



PRE-IMPACT RPT

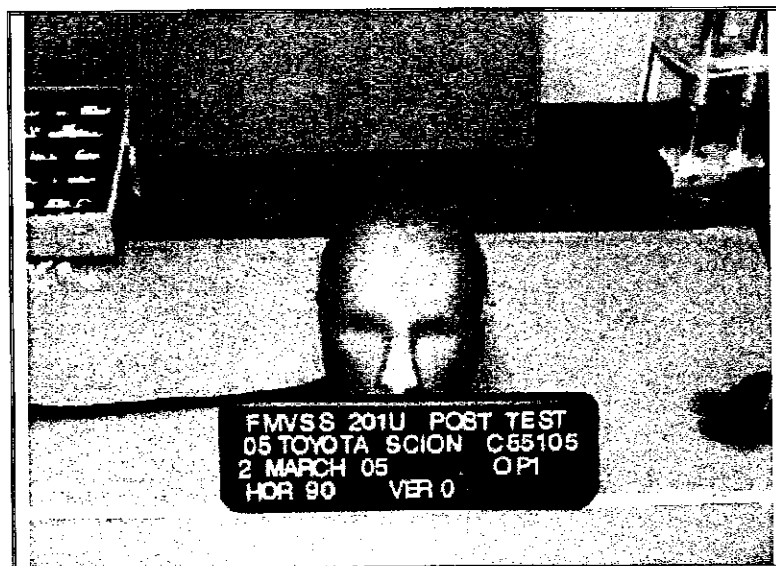


POST-IMPACT RPI

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	02
Test Date:	03/02/05
Target Location:	Other Pillar
Target Code:	OP1
Horizontal Impact Angle:	90°
Vertical Impact Angle:	0°
Ambient Temperature:	24 C°
Relative Humidity:	18
Time of Impact:	10:10
Headform Number:	0355

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	2	mm right	x mm left
On Centerline	15	mm up	



POST-IMPACT OPI HEADFORM

Free Motion HIC	843.9
HIC(d)	803.1
Impact Velocity (kph)	23.58
HIC T1 (msec)	0.8
HIC T2 (msec)	8.0

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - OP1

FMH Headform 0355

Location: OP1

Test Date: March 02, 2005

Work File: OP1

TEST RESULTS

Lab Temperature: 24 C

HICd: 803.1

Lab Humidity: 18 %

HIC (36ms): 843.9

Velocity at Impact: 23.58 KPH

t1: 0.8 msec

t2: 8.0 msec

Duration: 7.2 msec

Average Acceleration: 9.7 g

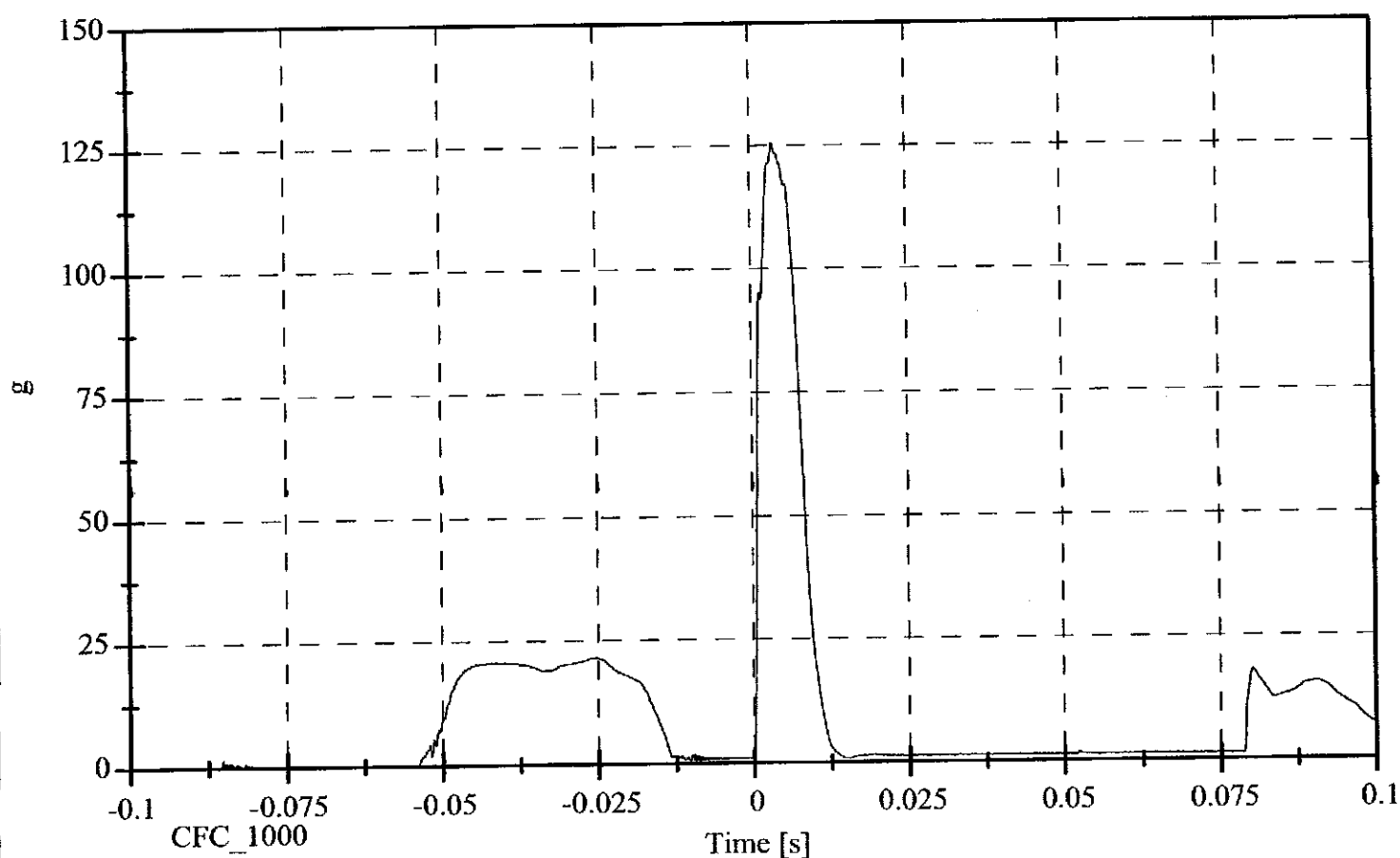
Free Flight Distance: 215.47 mm

Maximum: 125.5 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 125.5 [g] at 0.004 [s]

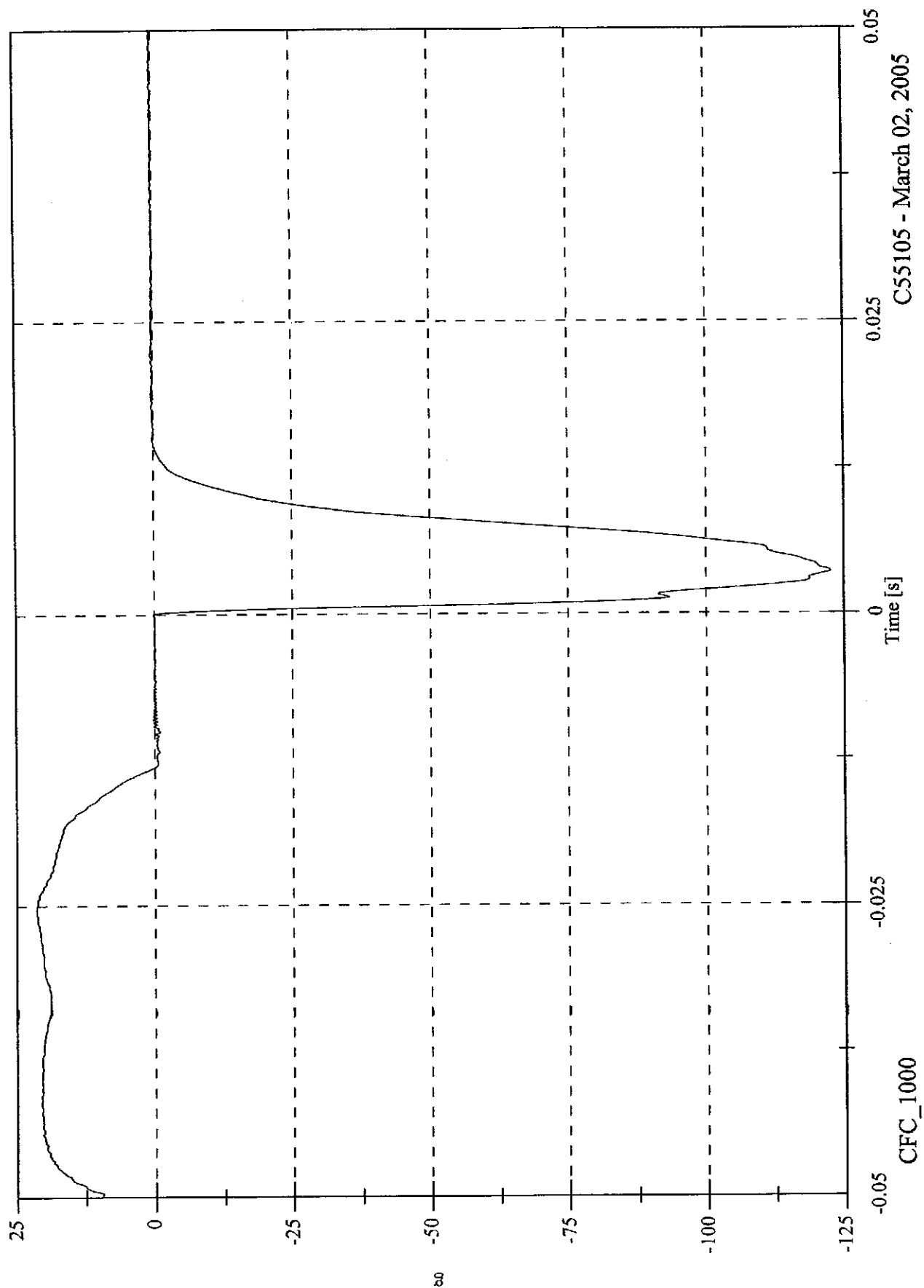
Min: 0.0 [g] at -0.063 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 21.4 [g] at -0.025 [s]
Min: -122.6 [g] at 0.004 [s]

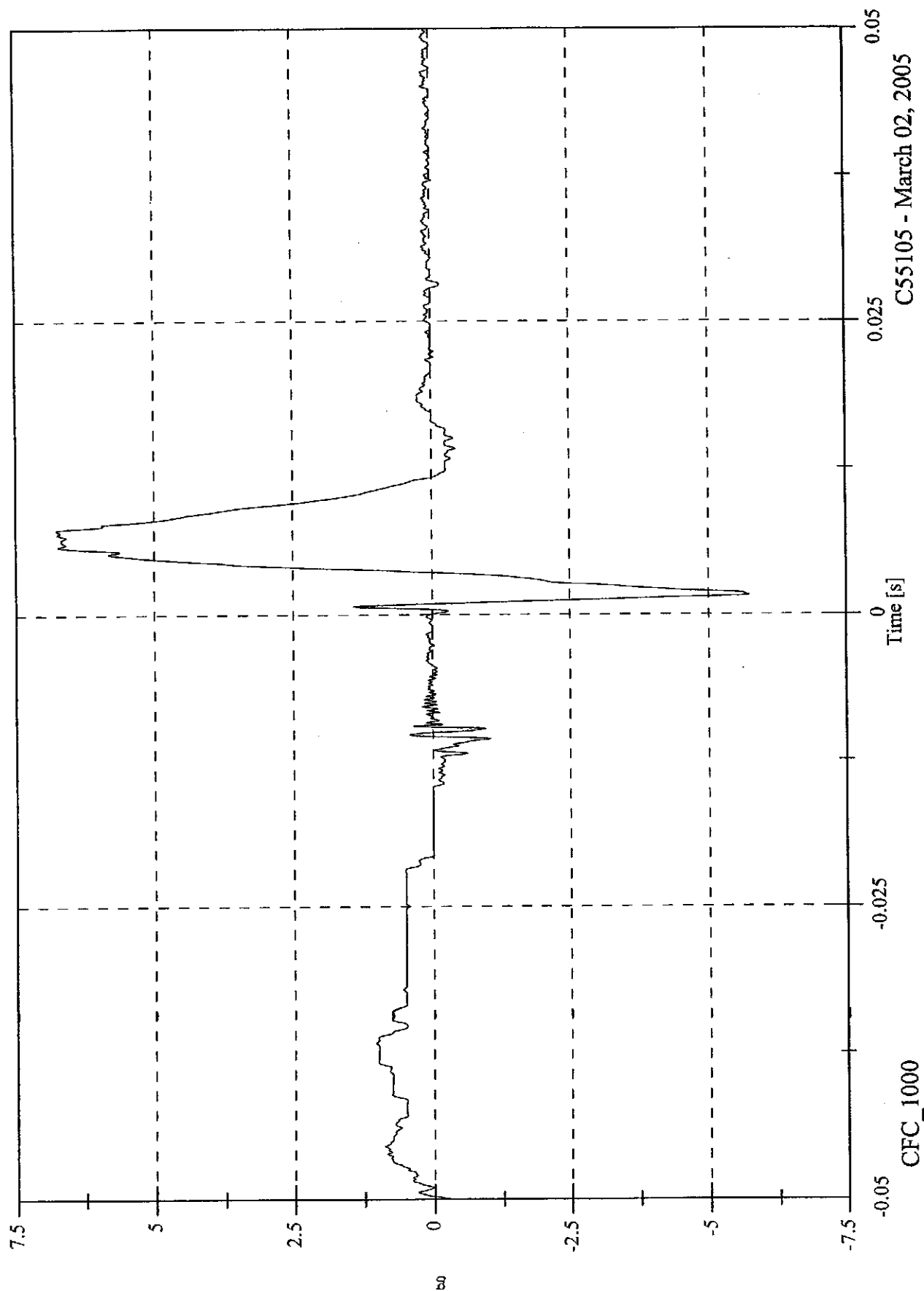


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FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

Max: 6.8 [g] at 0.007 [s]
Min: -5.7 [g] at 0.002 [s]

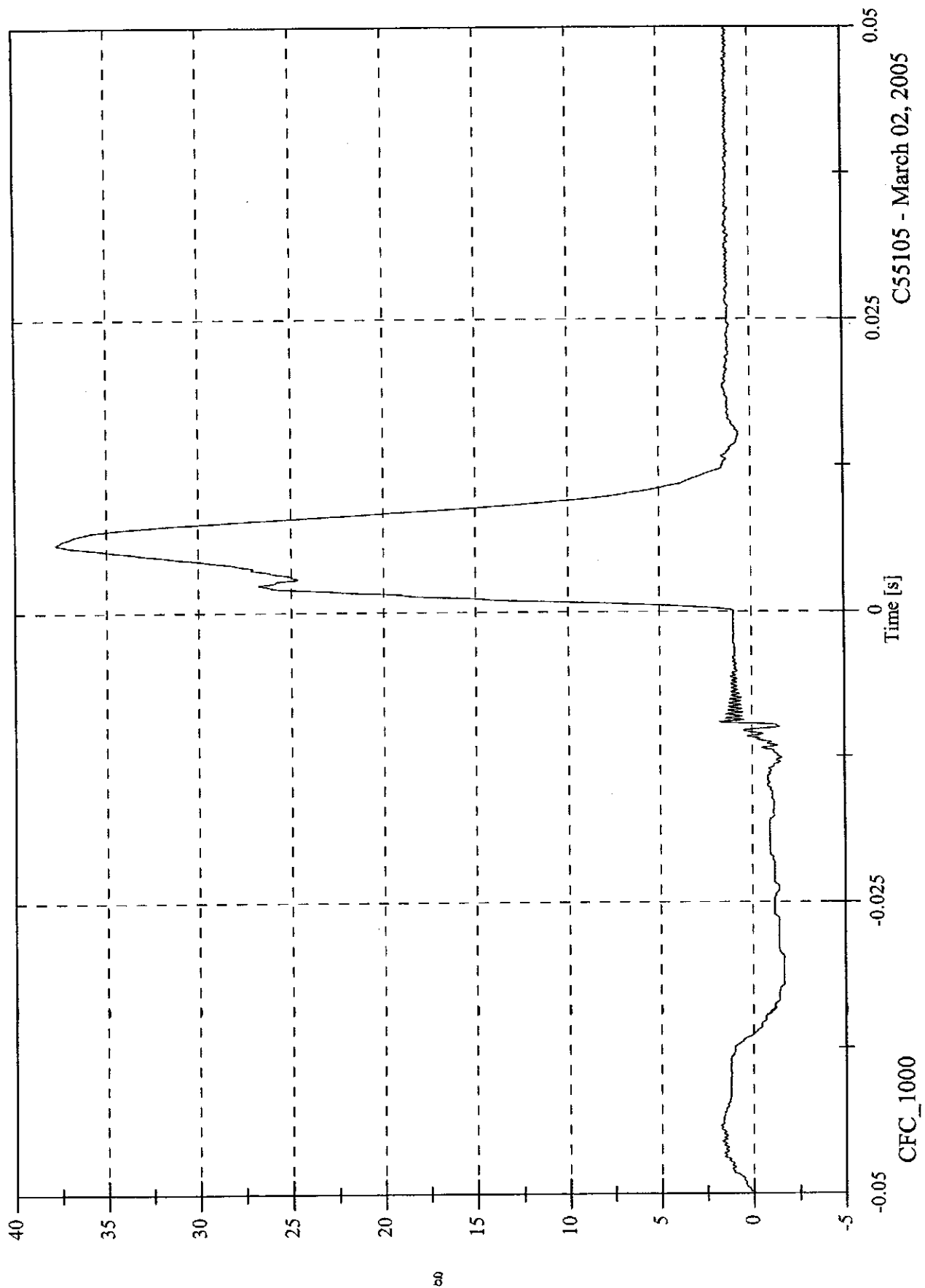


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FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

Max: 37.8 [g] at 0.006 [s]
Min: -1.7 [g] at -0.032 [s]

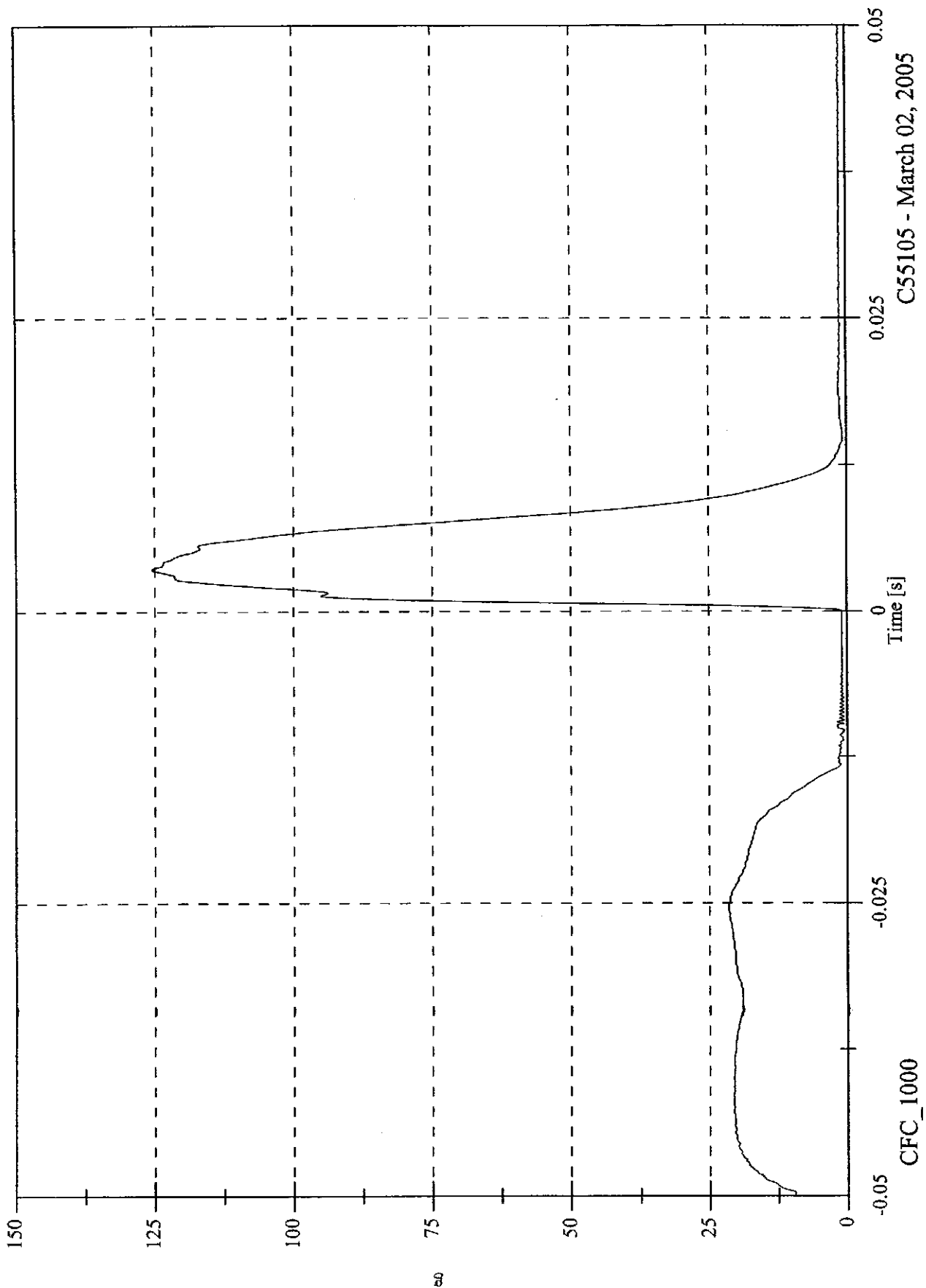


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

Max: 125.5 [g] at 0.004 [s]
Min: 0.5 [g] at -0.009 [s]

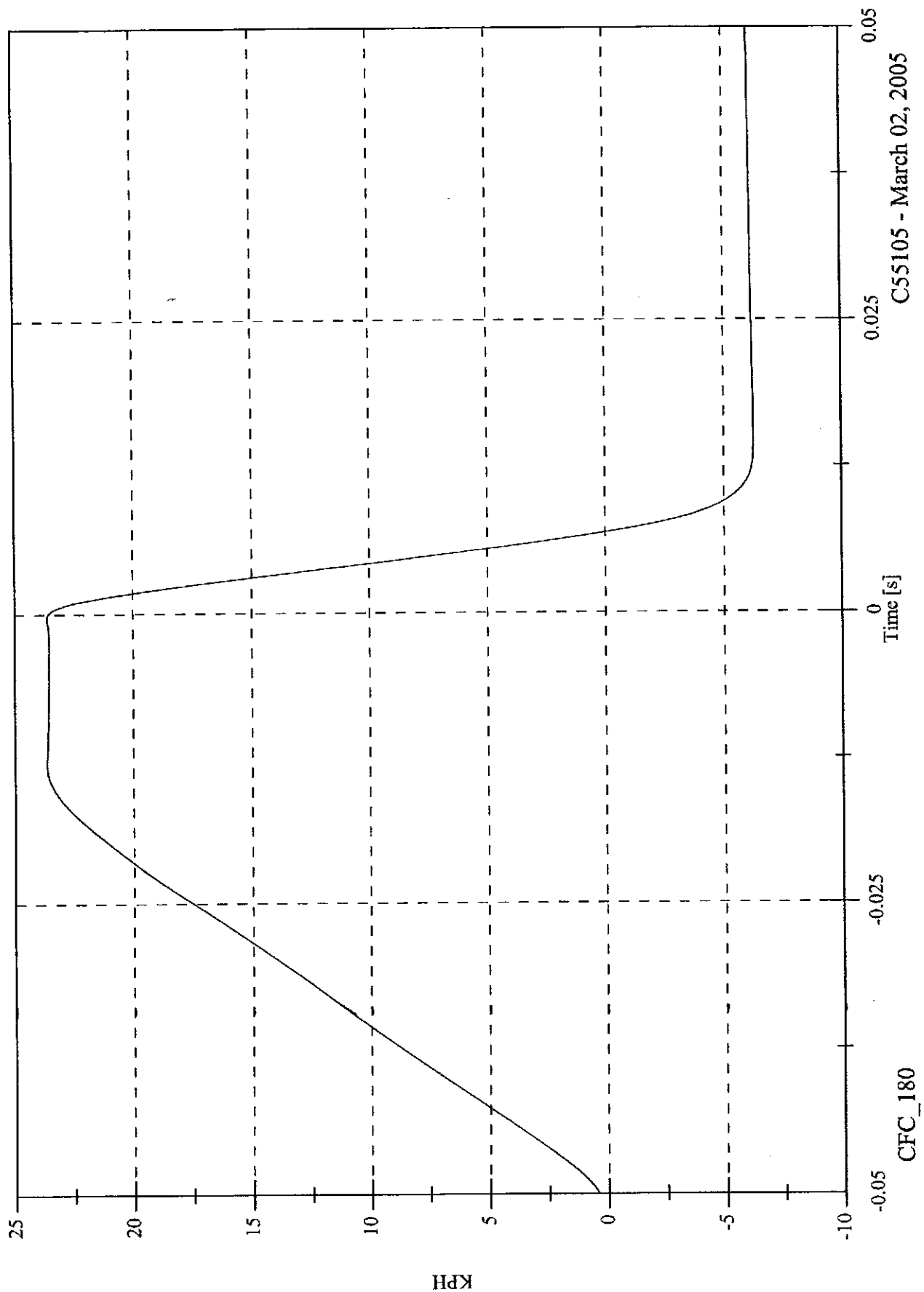


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 23.7 [KPH] at -0.013 [s]
Min: -6.3 [KPH] at 0.015 [s]

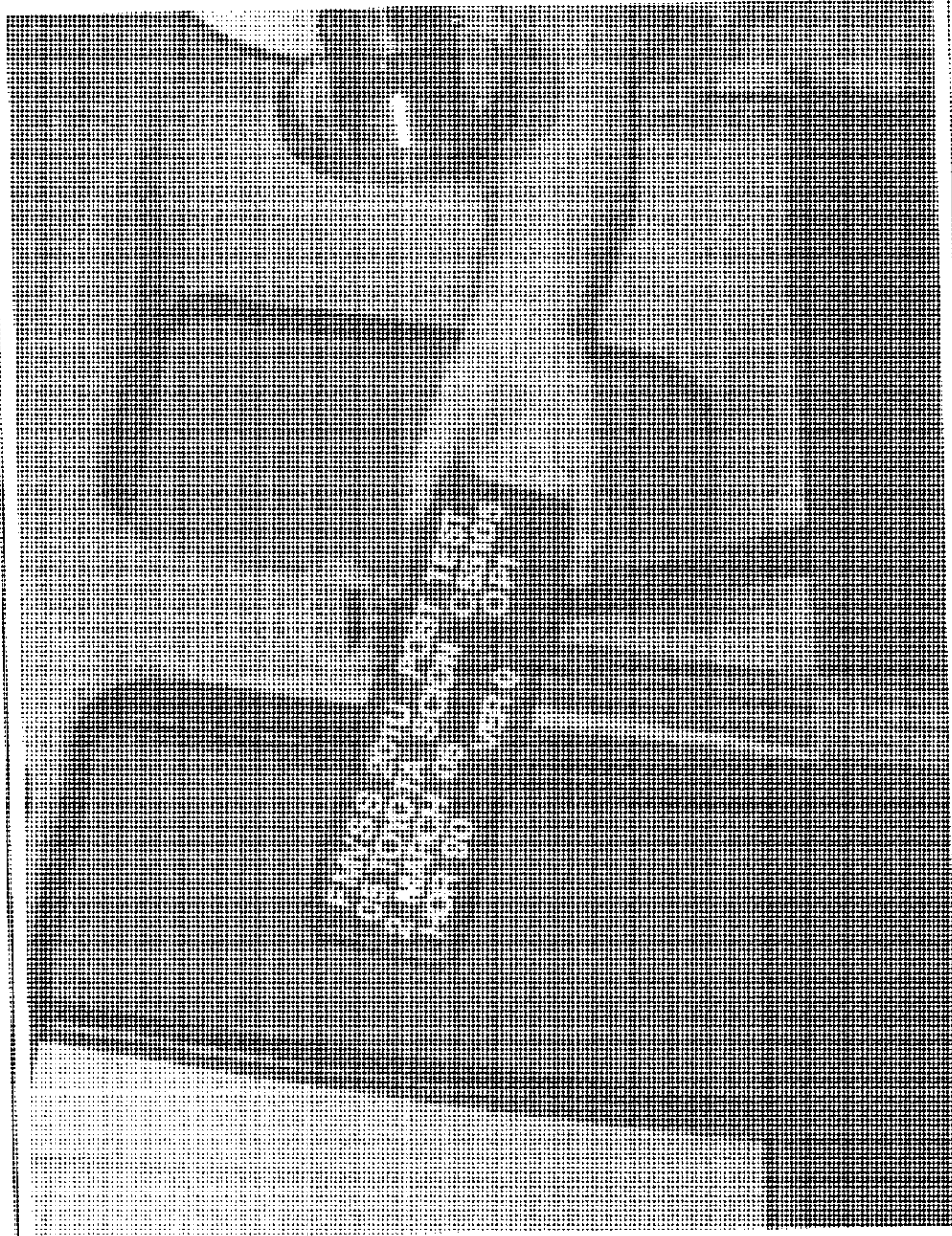
Headform Velocity



C55105 - March 02, 2005



PRE-IMPACT OR



POST-IMPACT OFI

8754-FAEII-03

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	03
Test Date:	03/02/05
Target Location:	Side Rail
Target Code:	SR3
Horizontal Impact Angle:	90°
Vertical Impact Angle:	50°
Ambient Temperature:	24 C°
Relative Humidity:	18
Time of Impact:	10:30
Headform Number:	1255

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	8	☒ mm right	☐ mm left
On Centerline	18	mm up	



POST-IMPACT SR3 HEADFORM

Free Motion HIC	797.9
HIC(d)	768.4
Impact Velocity (kph)	23.45
HIC T1 (msec)	5.2
HIC T2 (msec)	11.8

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - SR3

FMH Headform 1255

Location: SR3

Test Date: March 02, 2005

Work File: SR3

TEST RESULTS

Lab Temperature: 24 C

HICd: 768.4

Lab Humidity: 18 %

HIC (36ms): 797.9

Velocity at Impact: 23.45 KPH

t1: 5.2 msec

t2: 11.8 msec

Free Flight Distance: 211.49 mm

Duration: 6.5 msec

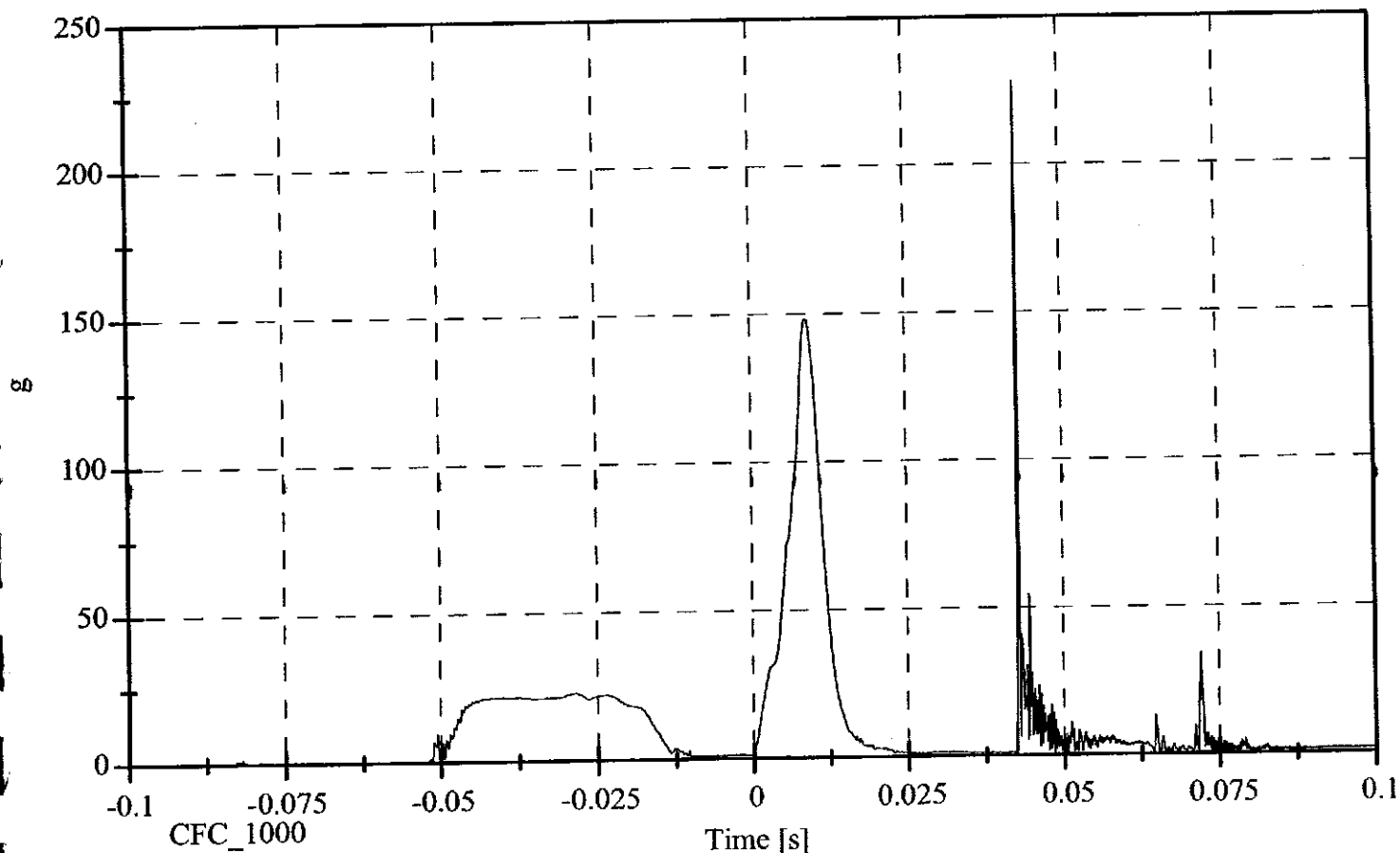
Maximum: 148.2 g

Average Acceleration: 10.1 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

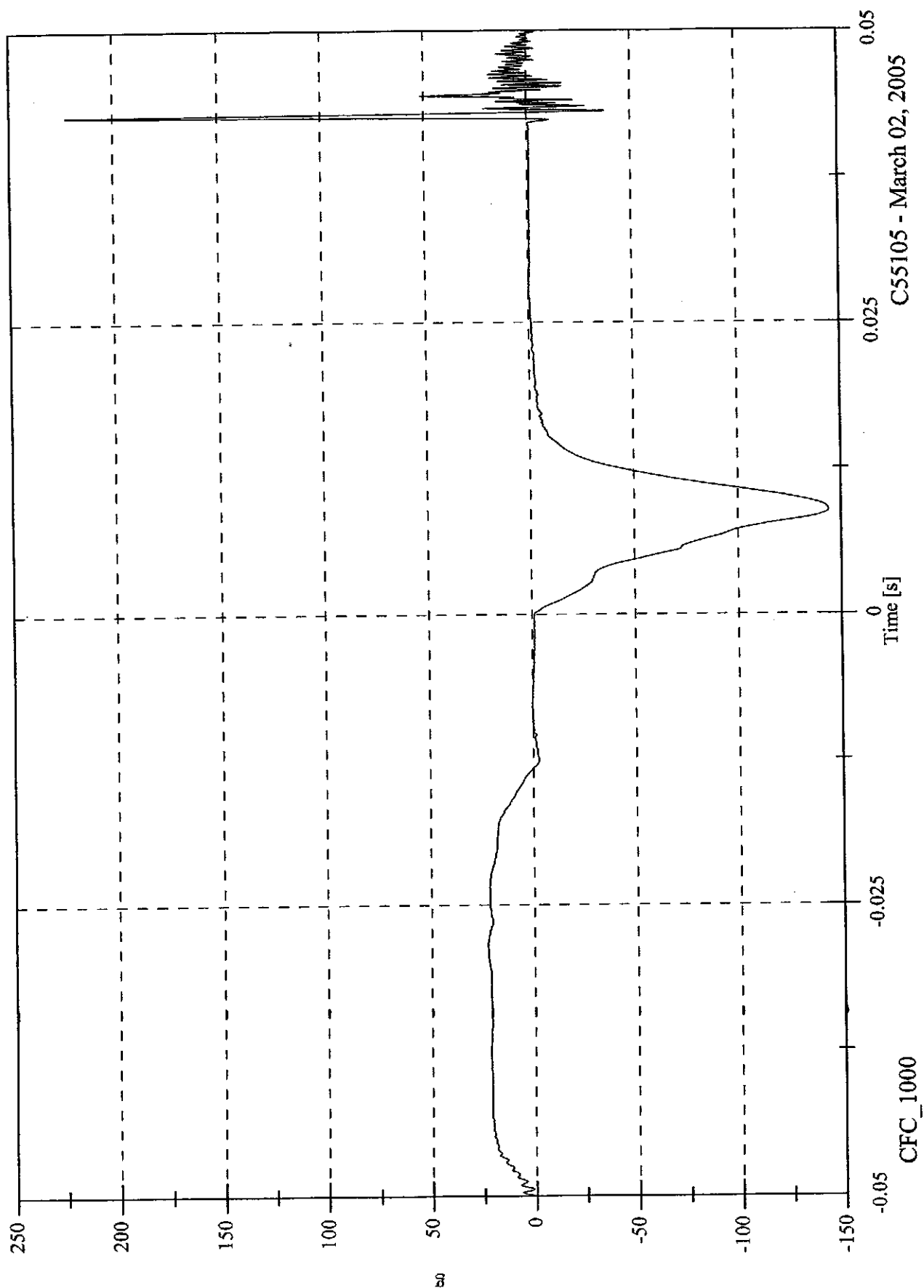
Max: 148.2 [g] at 0.009 [s]

Min: 0.0 [g] at -0.062 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform X Acceleration

Max: 222.6 [g] at 0.043 [s]
Min: -143.9 [g] at 0.009 [s]

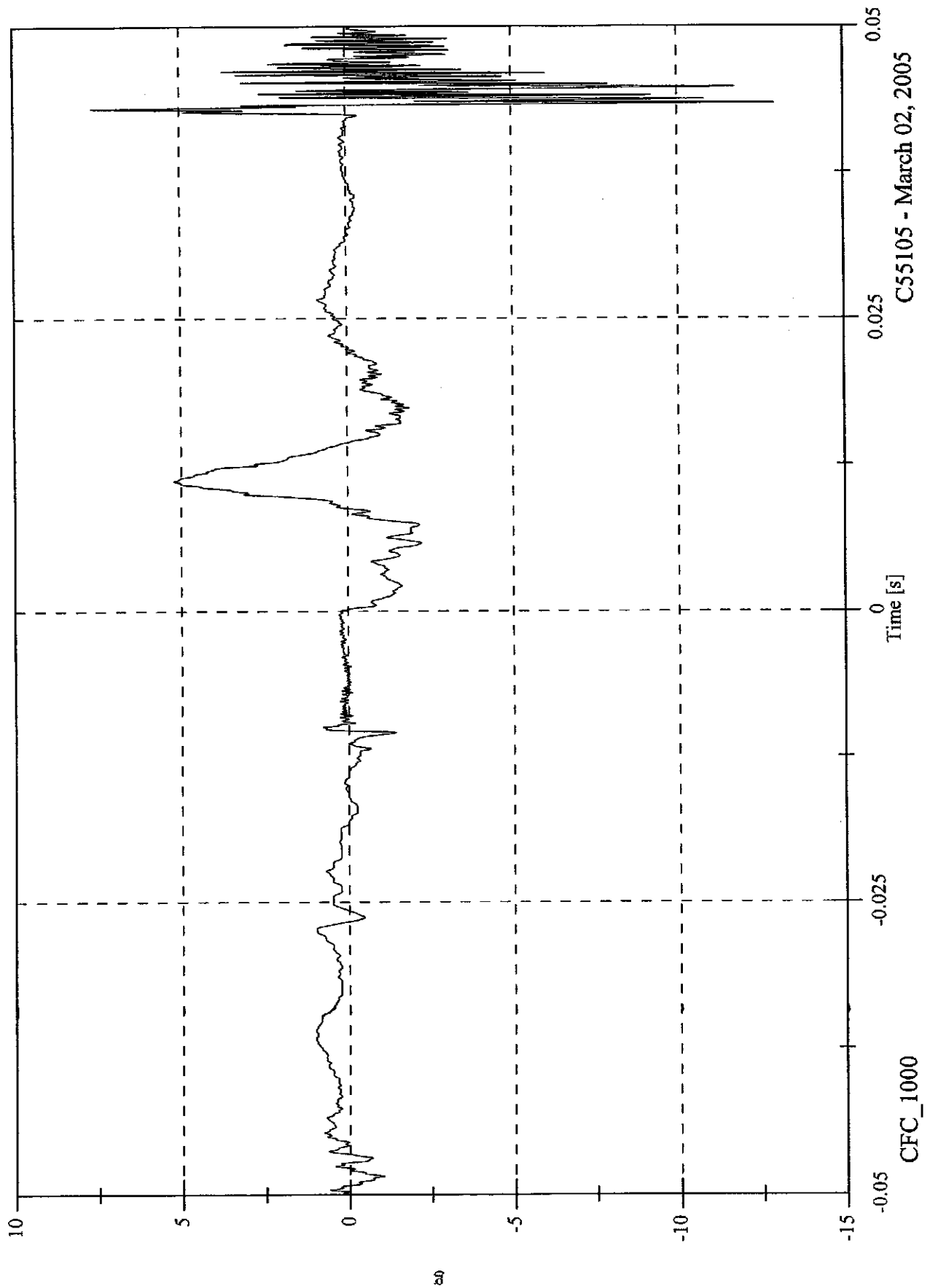


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

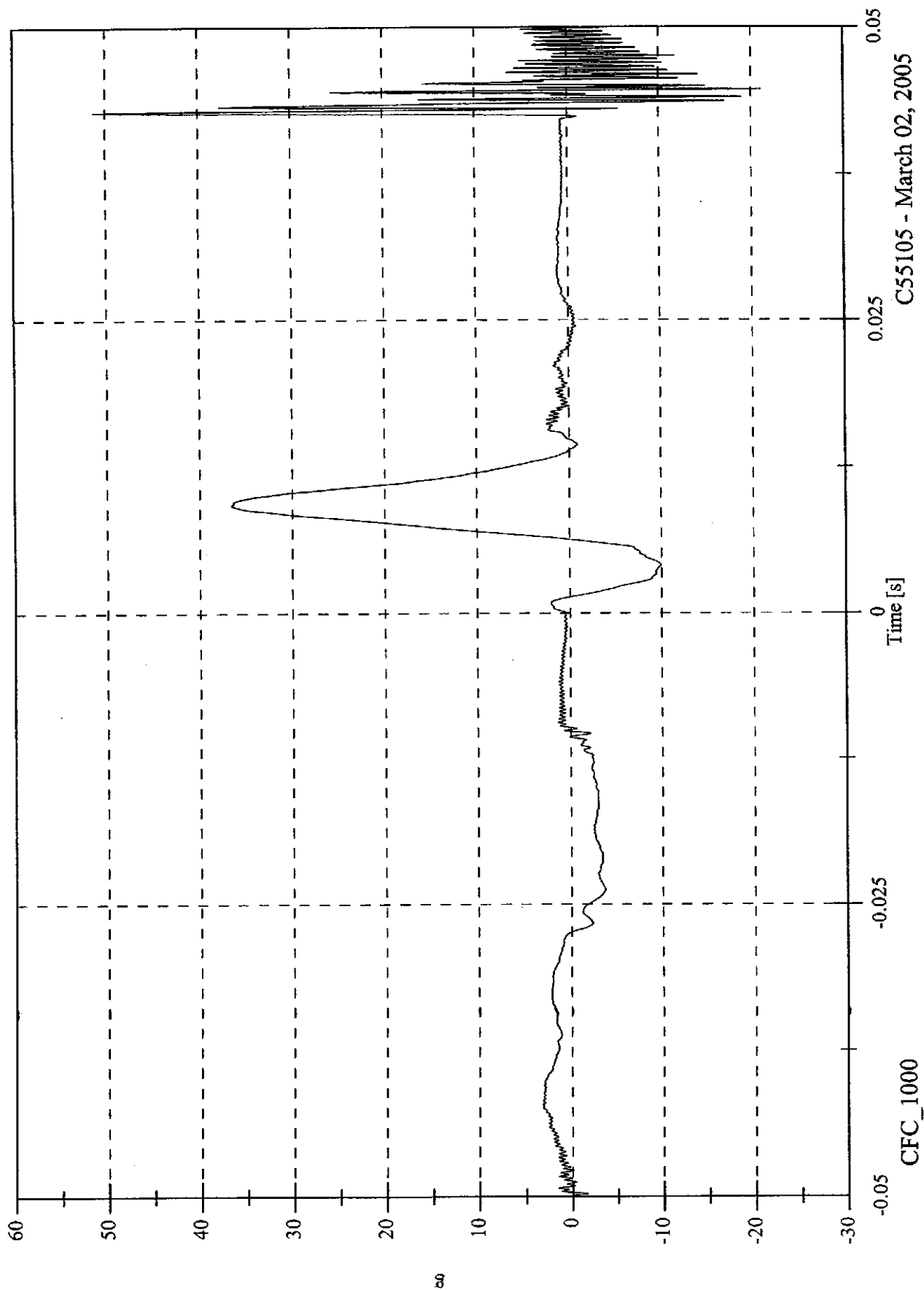
Max: 7.6 [g] at 0.043 [s]
Min: -12.9 [g] at 0.043 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

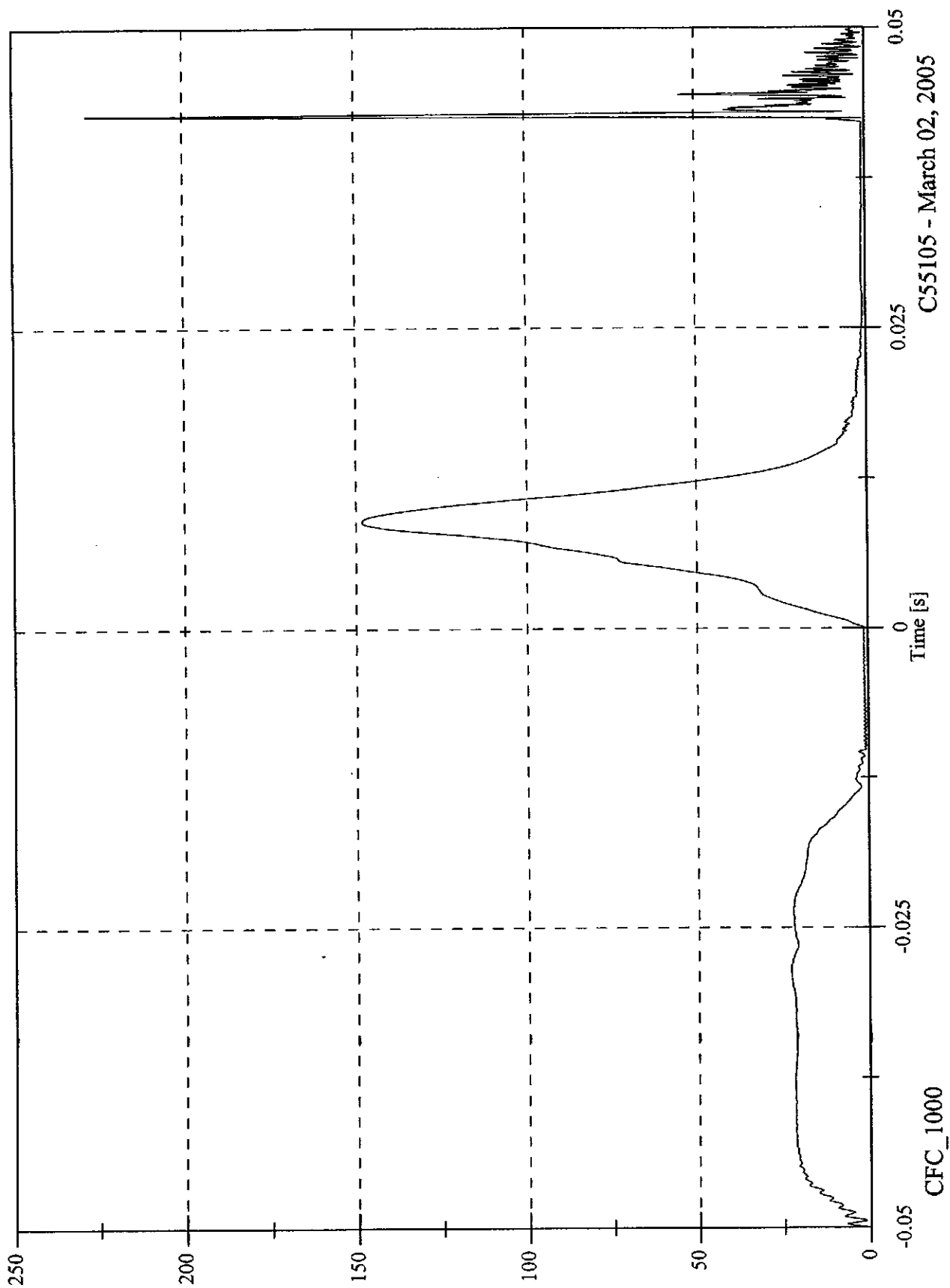
Headform Z Acceleration

Max: 51.2 [g] at 0.043 [s]
Min: -21.1 [g] at 0.045 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 228.1 [g] at 0.043 [s]
Min: 0.4 [g] at -0.010 [s]

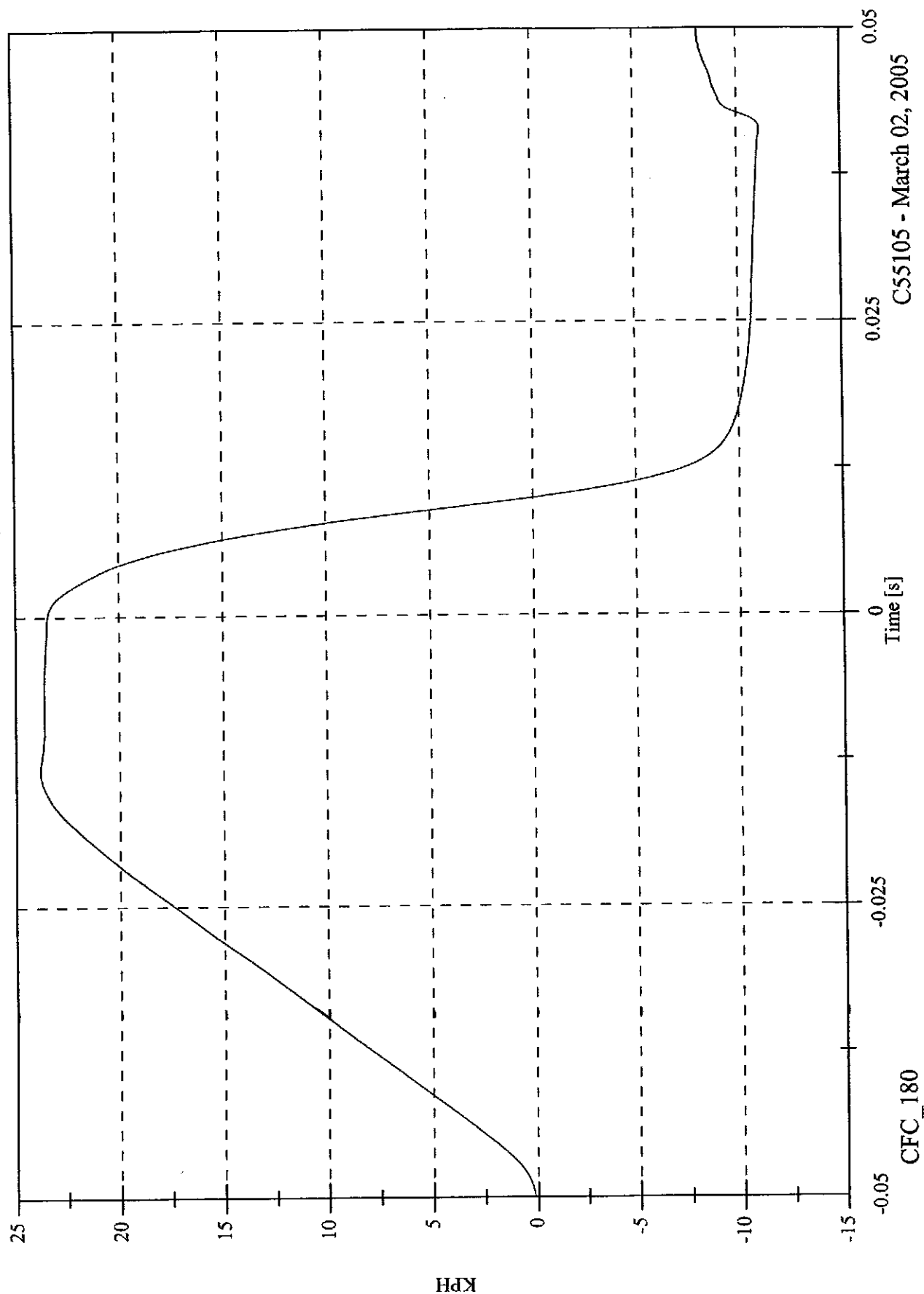


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 23.8 [KPH] at -0.013 [s]
Min: -11.1 [KPH] at 0.041 [s]

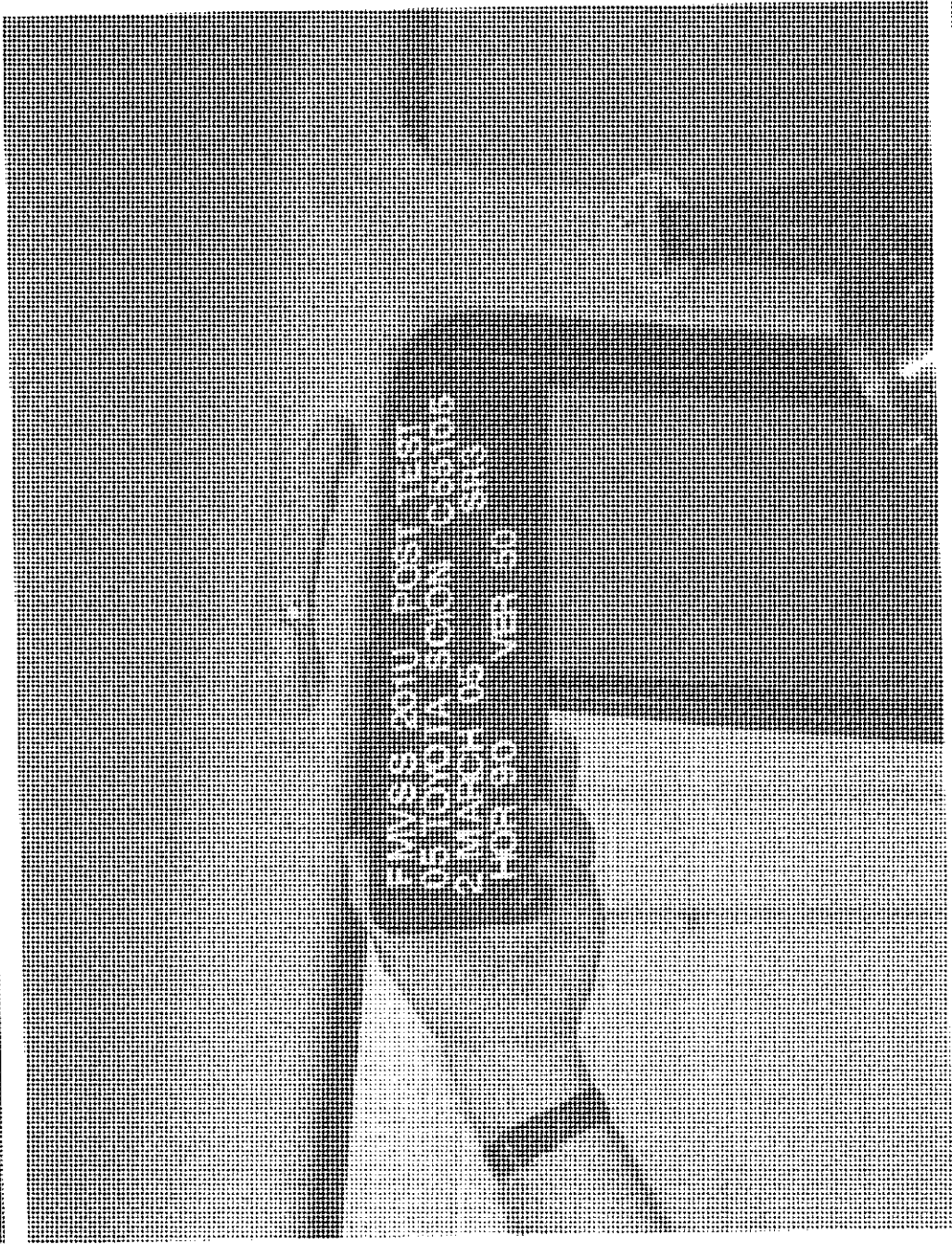
Headform Velocity



CFC_180



PRE-IMPACTS



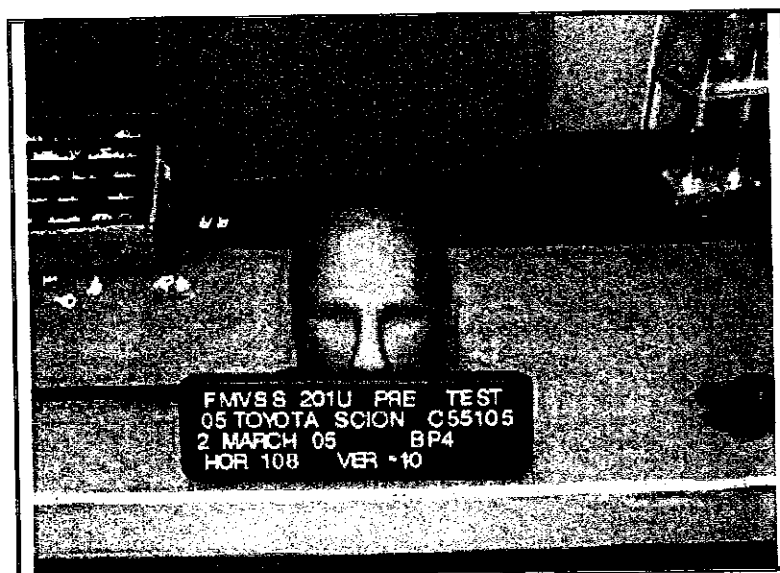
FWSS 2011 POST TEST
051001A SCIN C8106
21 MARCH 19 2011
1401 30 1000 50

POST IMPACT SR3

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	04
Test Date:	03/02/05
Target Location:	B-Pillar
Target Code:	BP4
Horizontal Impact Angle:	108°
Vertical Impact Angle:	-10°
Ambient Temperature:	24 C°
Relative Humidity:	18
Time of Impact:	11:10
Headform Number:	0642

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	44	☐ mm right	☒ mm left
On Centerline	2	mm up	



POST-IMPACT BP4 HEADFORM

Free Motion HIC	343.0
HIC(d)	425.2
Impact Velocity (kph)	23.79
HIC T1 (msec)	1.5
HIC T2 (msec)	13.9

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - BP4

FMH Headform 0642

Location: BP4

Test Date: March 02, 2005

Work File: BP4

TEST RESULTS

Lab Temperature: 24 C

HICd: 425.2

Lab Humidity: 18 %

HIC (36ms): 343.0

Velocity at Impact: 23.79 KPH

t1: 1.5 msec

t2: 13.9 msec

Free Flight Distance: 208.61 mm

Duration: 12.4 msec

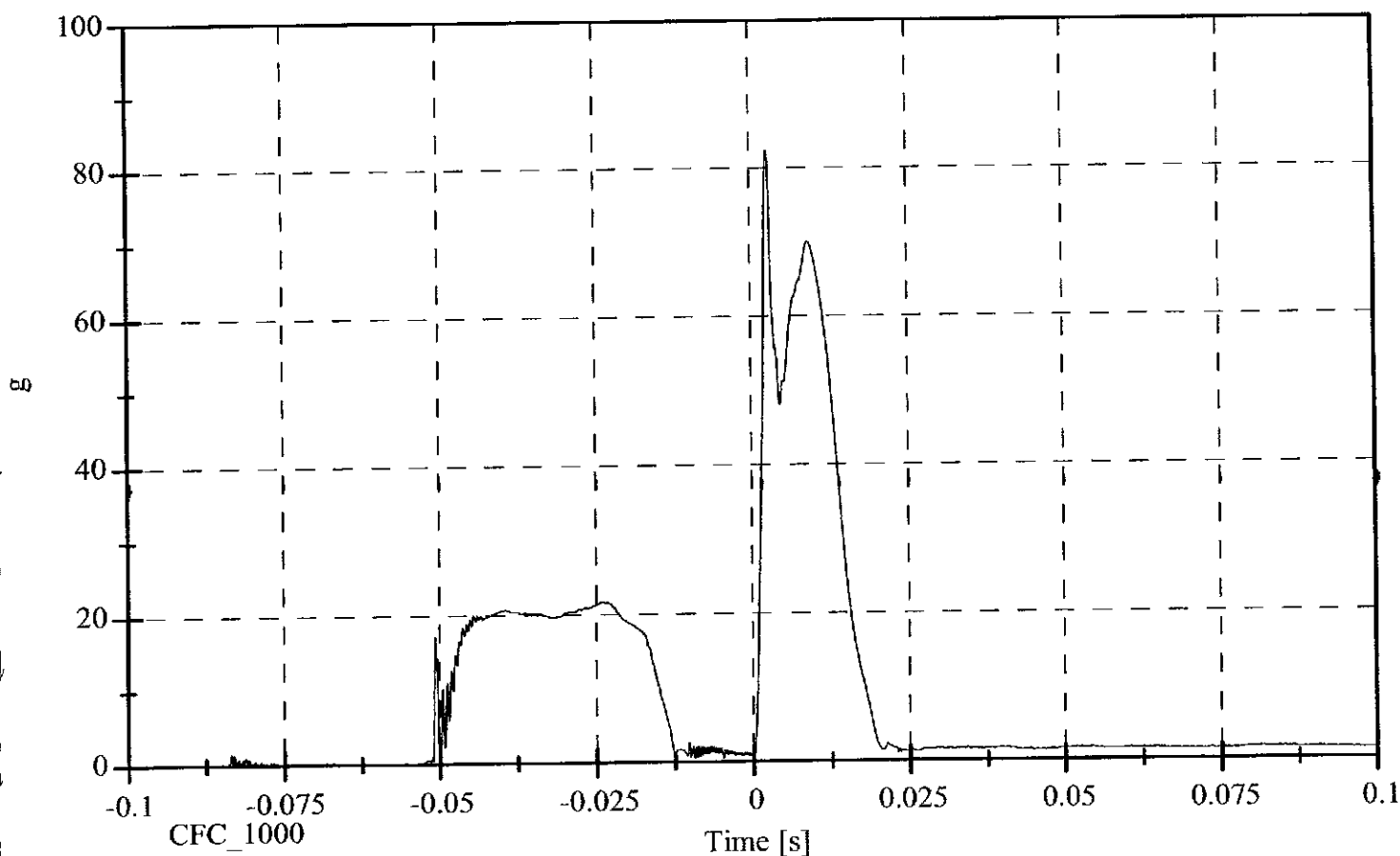
Maximum: 82.3 g

Average Acceleration: 8.4 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 82.3 [g] at 0.003 [s]

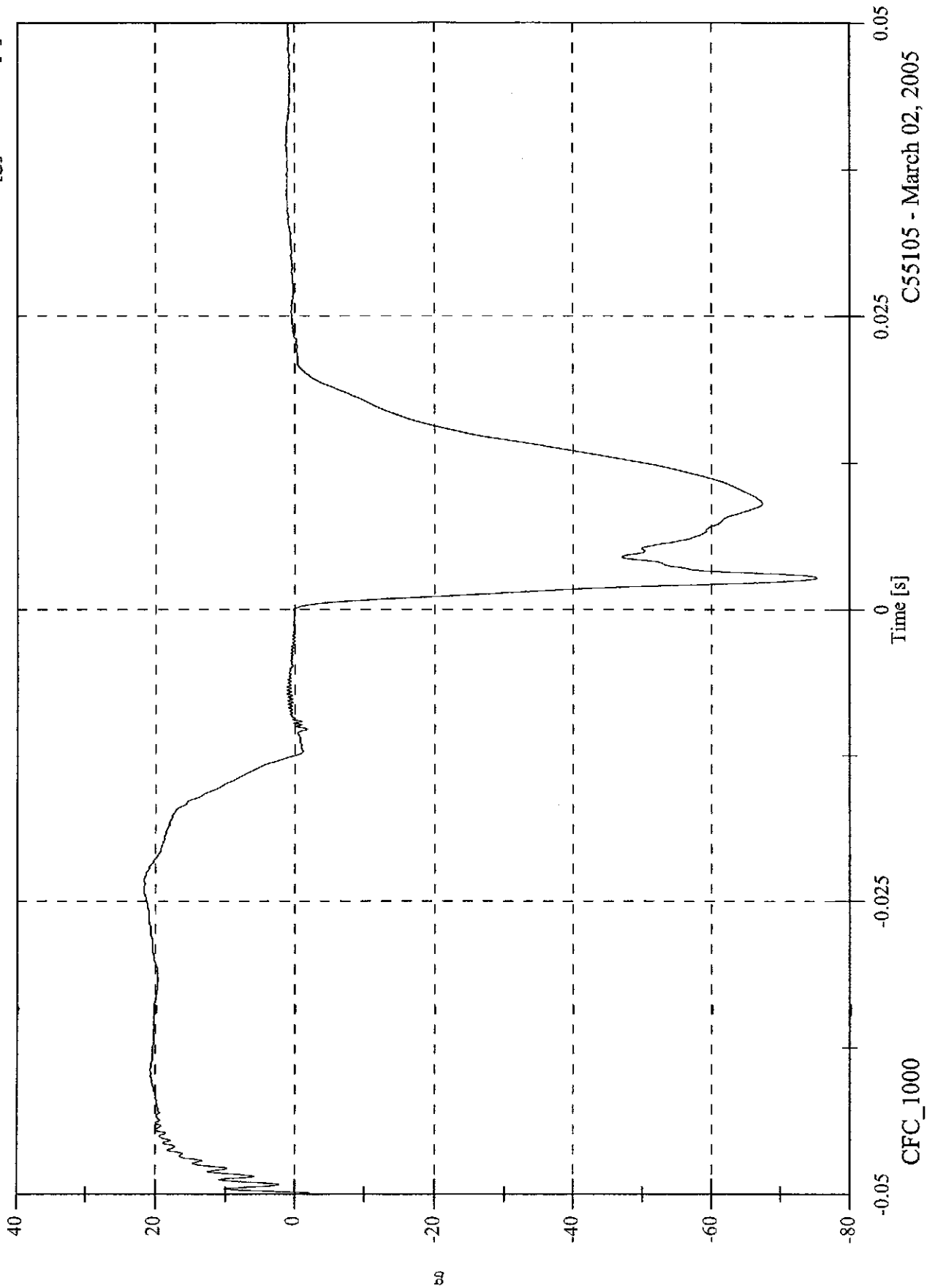
Min: 0.0 [g] at -0.054 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

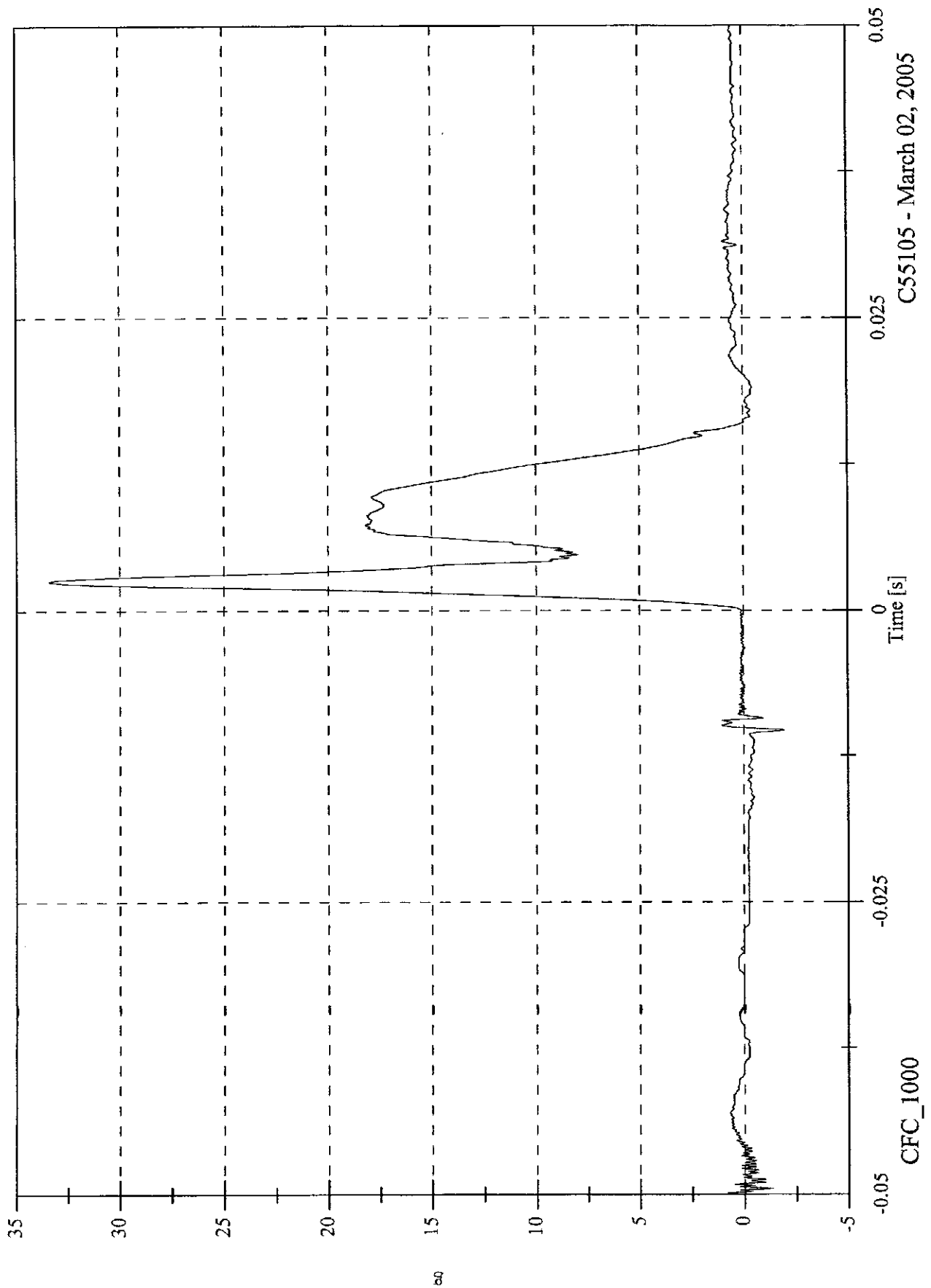
Max: 21.7 [g] at -0.023 [s]
Min: -75.3 [g] at 0.003 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

Max: 33.4 [g] at 0.003 [s]
Min: -1.9 [g] at -0.010 [s]

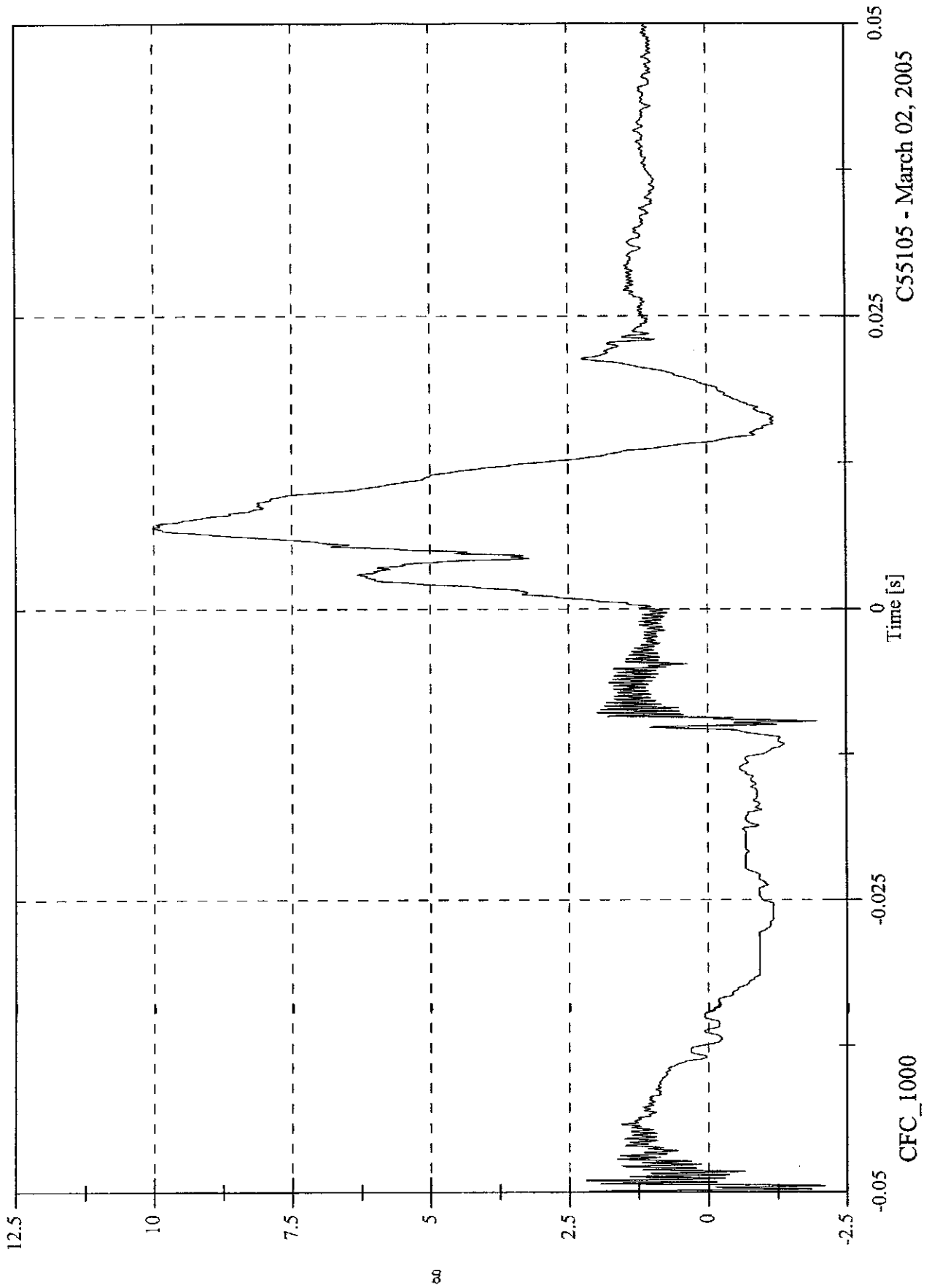


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

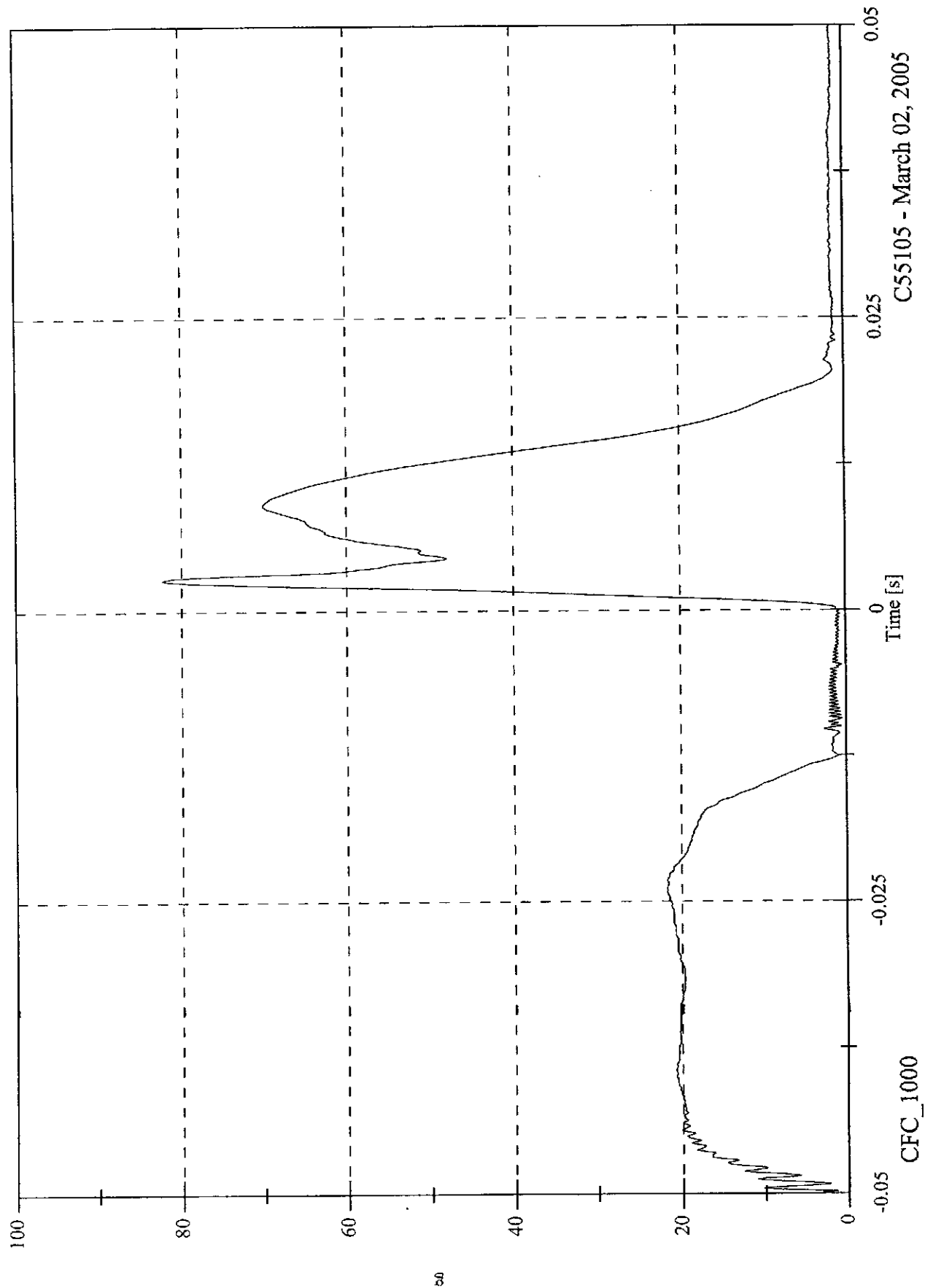
Max: 10.0 [g] at 0.007 [s]
Min: -2.1 [g] at -0.049 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

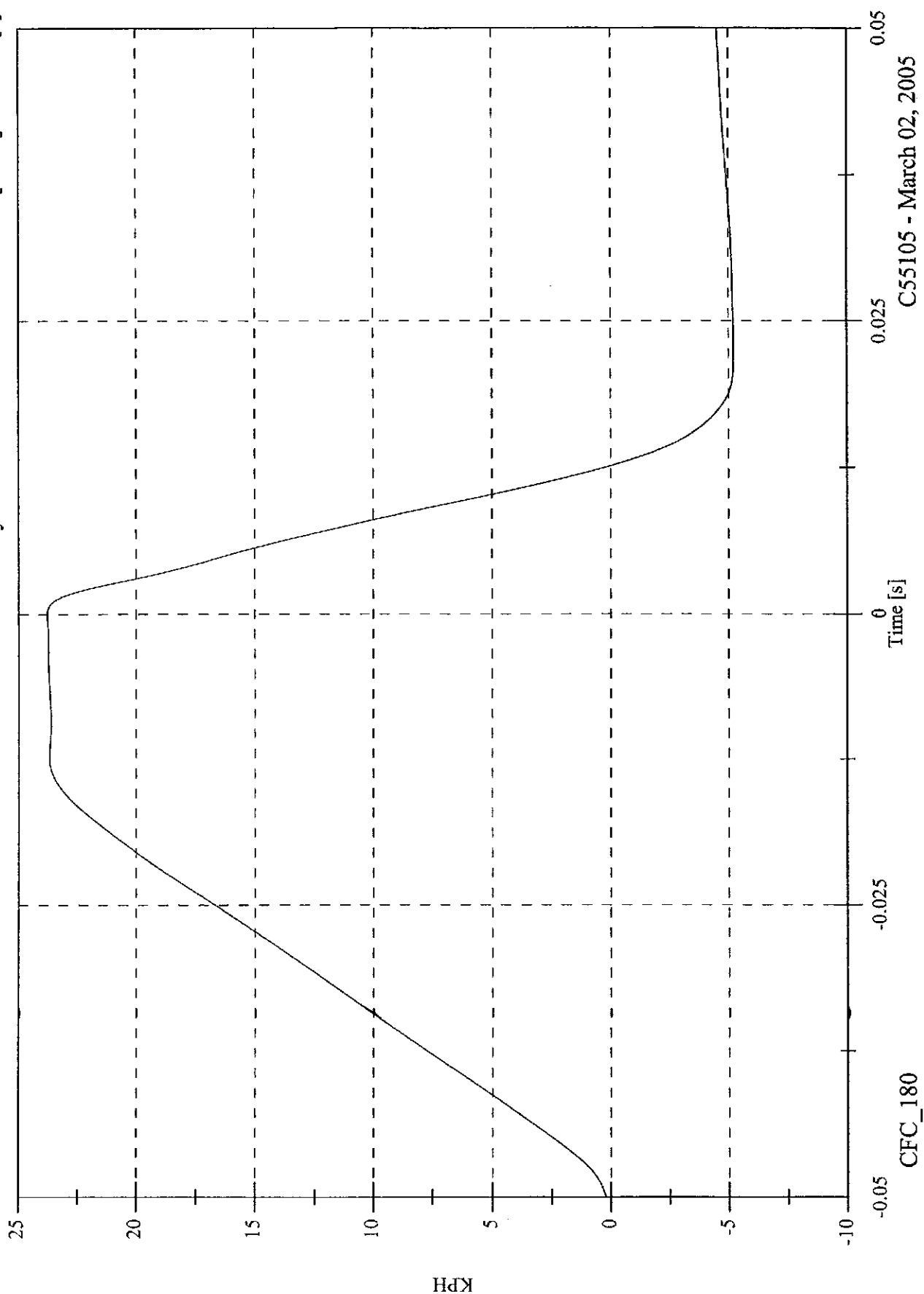
Max: 82.3 [g] at 0.003 [s]
Min: 0.5 [g] at -0.005 [s]



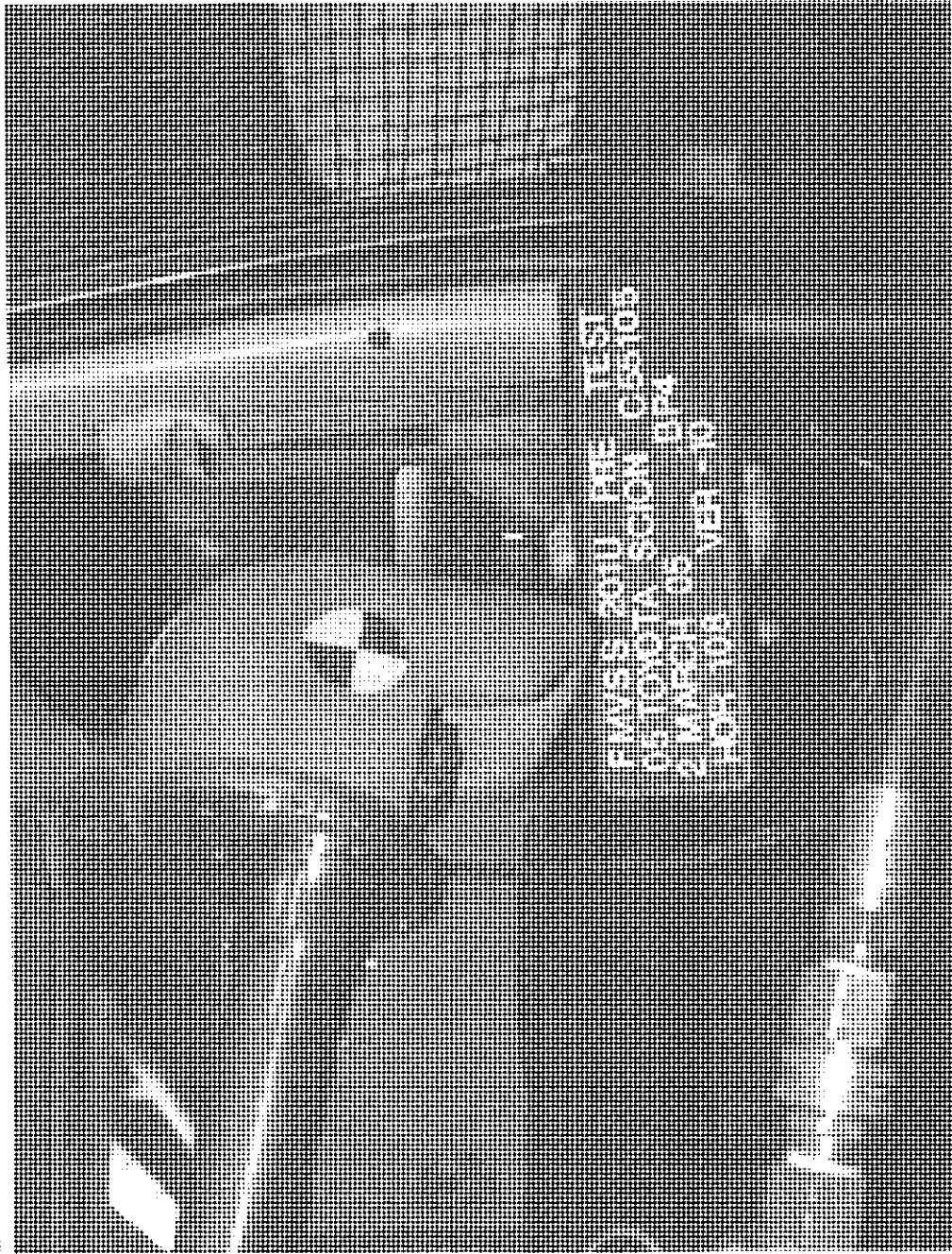
FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 23.8 [KPH] at -0.000 [s]
 Min: -5.2 [KPH] at 0.023 [s]

Headform Velocity



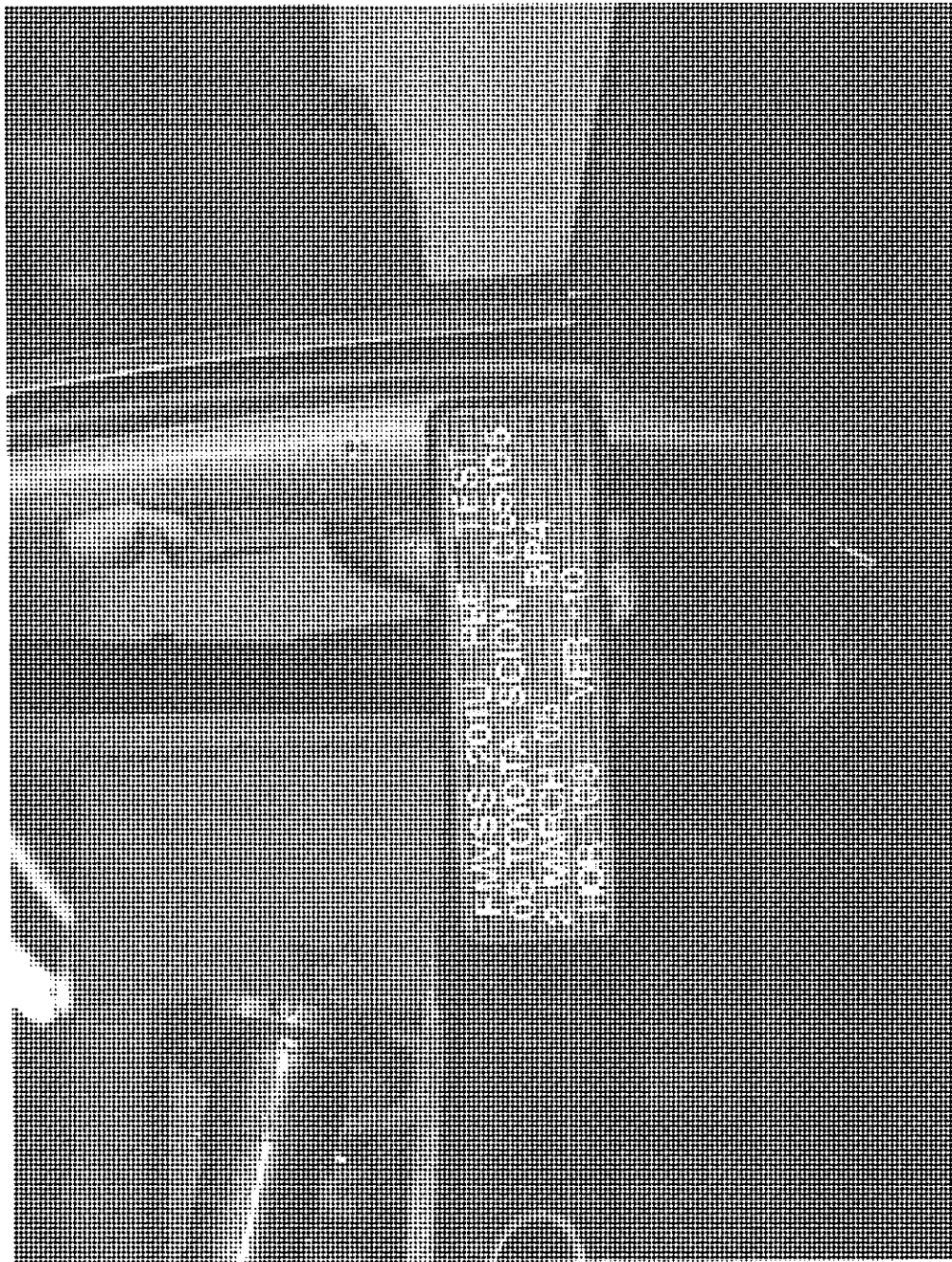
CFC_180



FWVSS 2010 PRE TEST
081000TA SCION 055108
2 MAR 2010 08:00
104-108 VER-10

PRE-IMPACT BP4

0754-1041-03



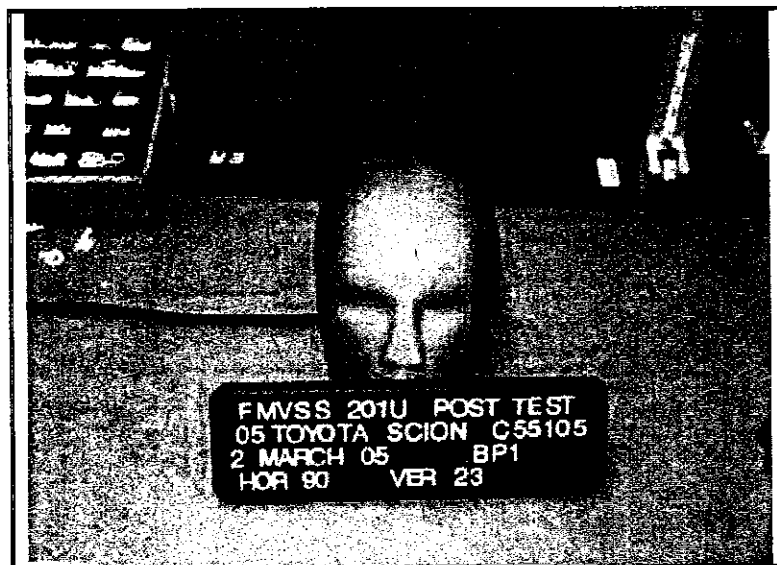
THIS IS A COPY OF THE
ORIGINAL COPY OF THE
ORIGINAL COPY OF THE
ORIGINAL COPY OF THE
ORIGINAL COPY OF THE

POSE-IMPACT HP4 (PLACARD MISLABELED-THIS IS A POST-TEST PHOTO)

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	05
Test Date:	03/02/05
Target Location:	B-Pillar
Target Code:	BP1
Horizontal Impact Angle:	90°
Vertical Impact Angle:	23°
Ambient Temperature:	24 C°
Relative Humidity:	18
Time of Impact:	11:40
Headform Number:	0805

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	2	☒ mm right	☐ mm left
On Centerline	85	mm up	



POST-IMPACT BP1 HEADFORM

Free Motion HIC	885.4
HIC(d)	834.4
Impact Velocity (kph)	23.60
HIC T1 (msec)	4.5
HIC T2 (msec)	10.5

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - BP1

FMH Headform 805

Location: BP1

Test Date: March 02, 2005

Work File: BP1

-----TEST RESULTS-----

Lab Temperature: 24 C

HICd: 834.4

Lab Humidity: 18 %

HIC (36ms): 885.4

Velocity at Impact: 23.60 KPH

t1: 4.5 msec

Free Flight Distance: 223.00 mm

t2: 10.5 msec

Maximum: 150.9 g

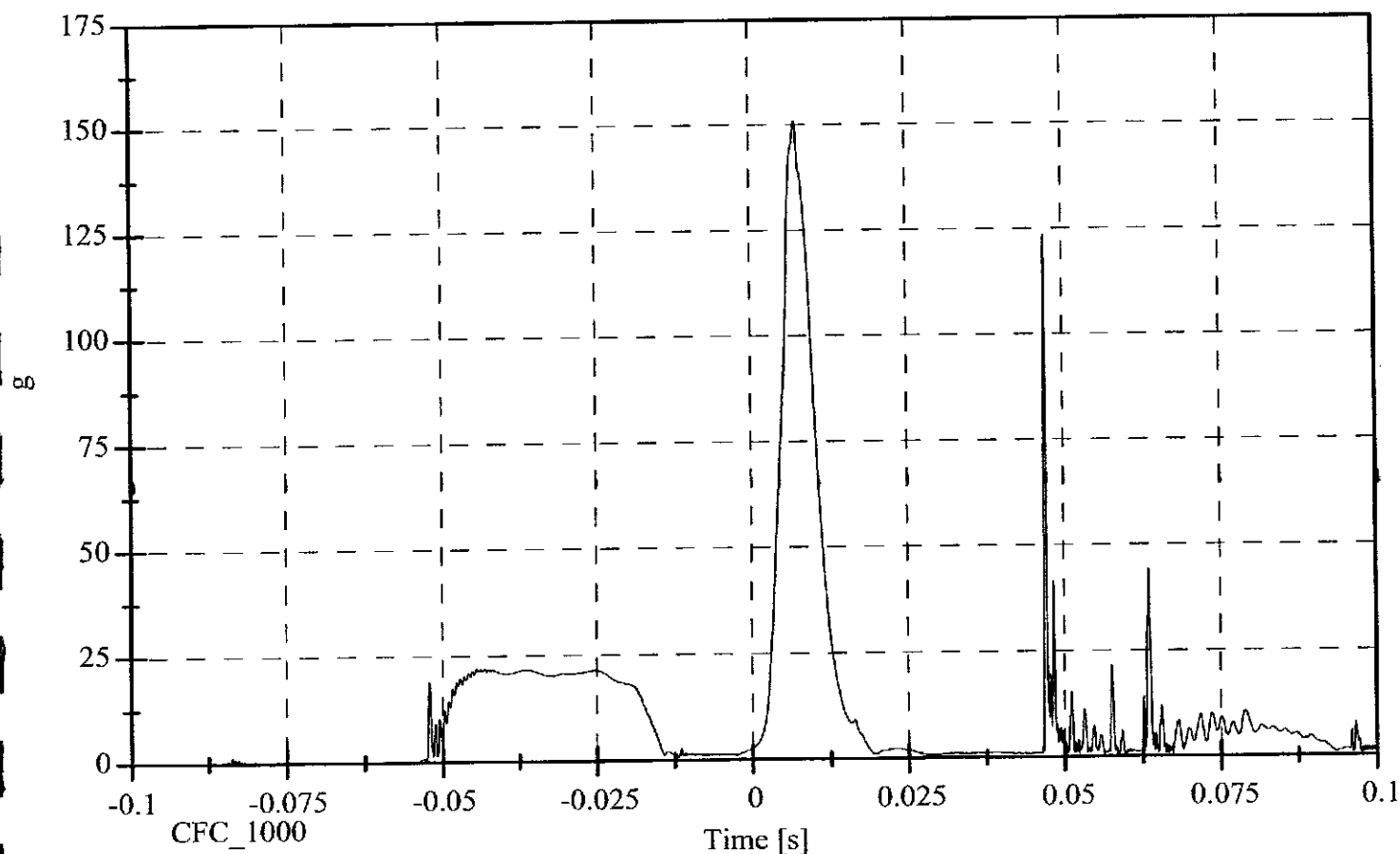
Duration: 6.0 msec

Average Acceleration: 10.2 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 150.9 [g] at 0.007 [s]

Min: 0.0 [g] at -0.061 [s]

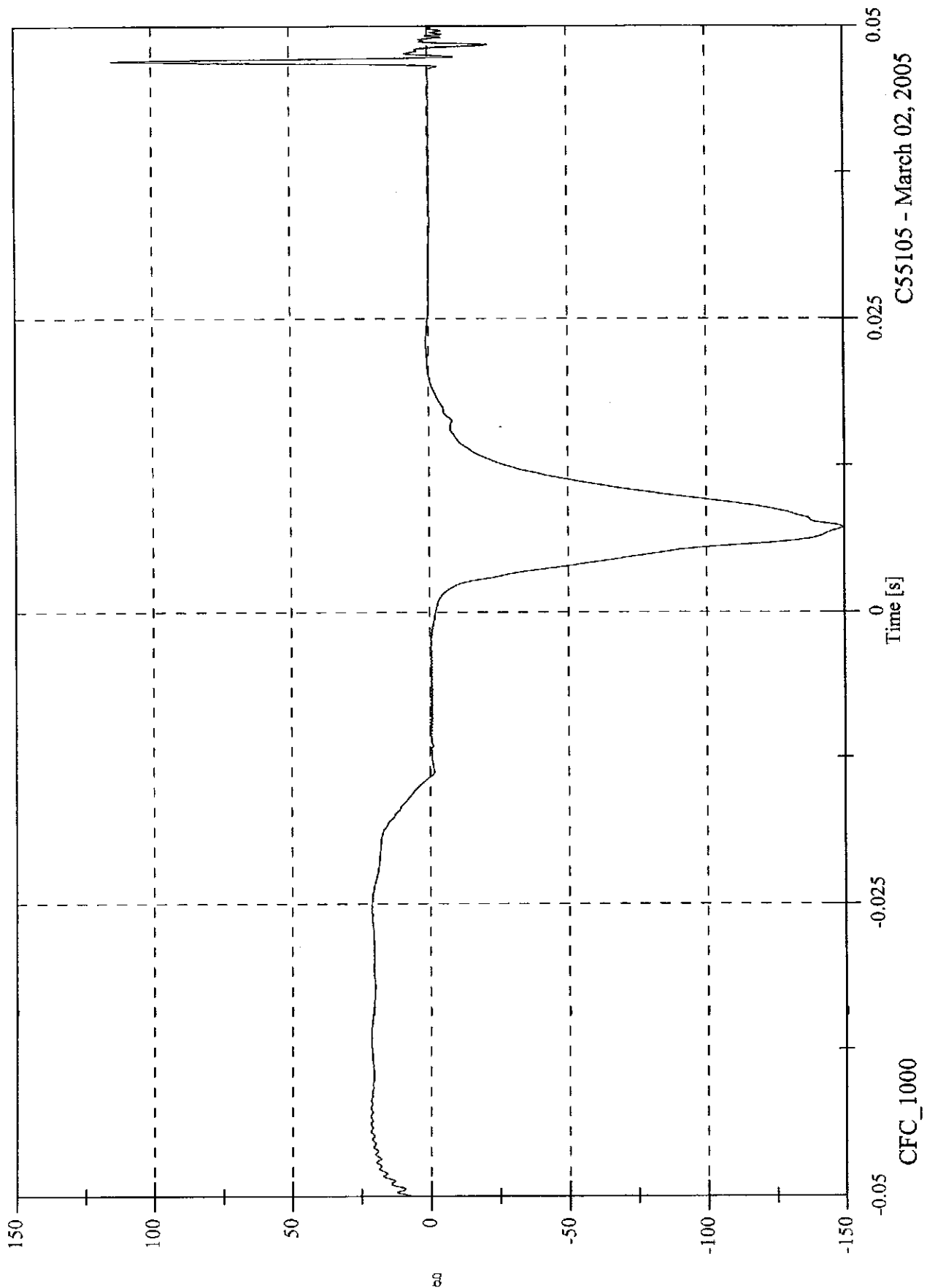


FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 114.4 [g] at 0.047 [s]

Min: -149.3 [g] at 0.007 [s]

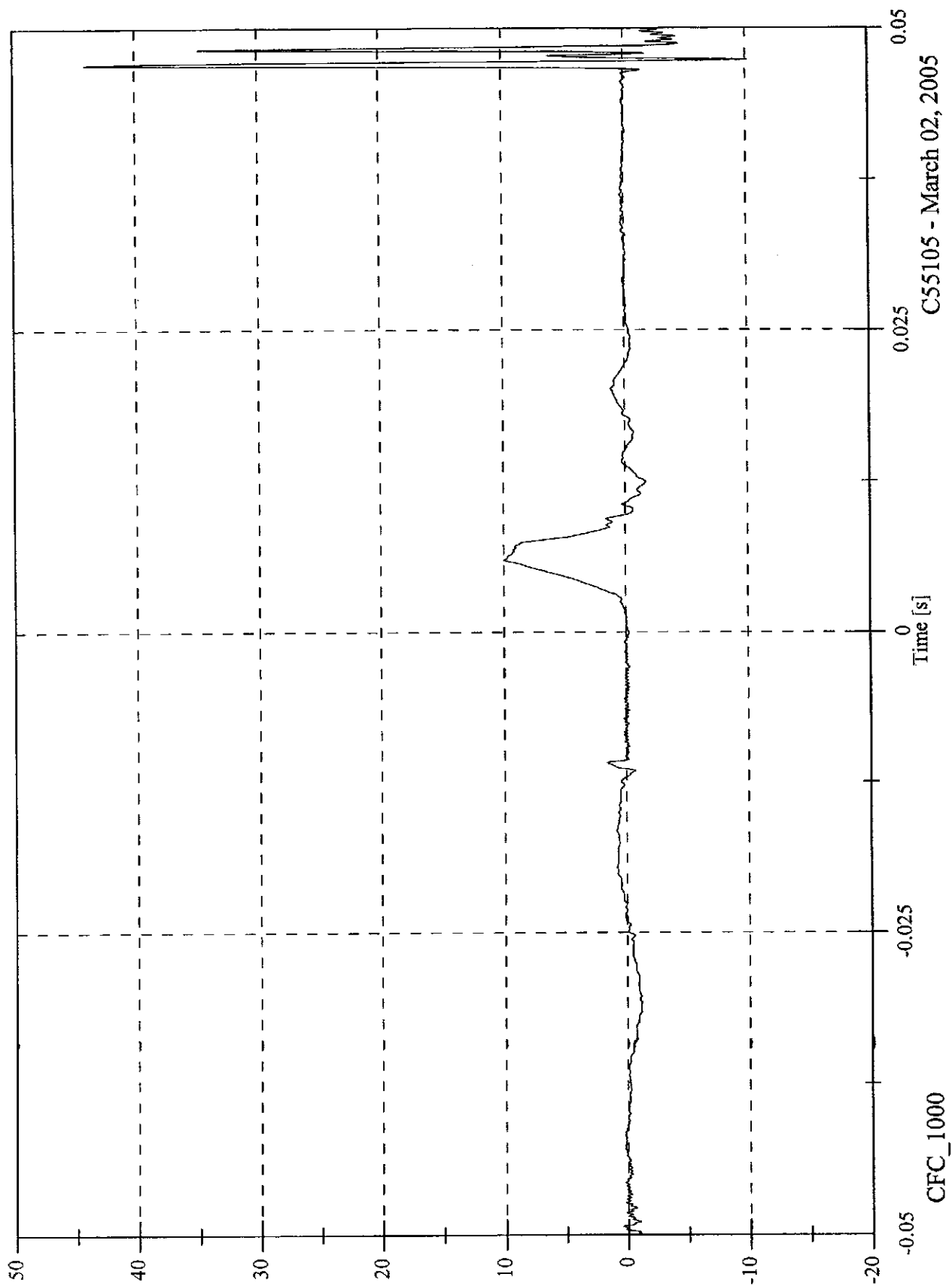


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

Max: 44.1 [g] at 0.047 [s]
Min: -10.2 [g] at 0.047 [s]

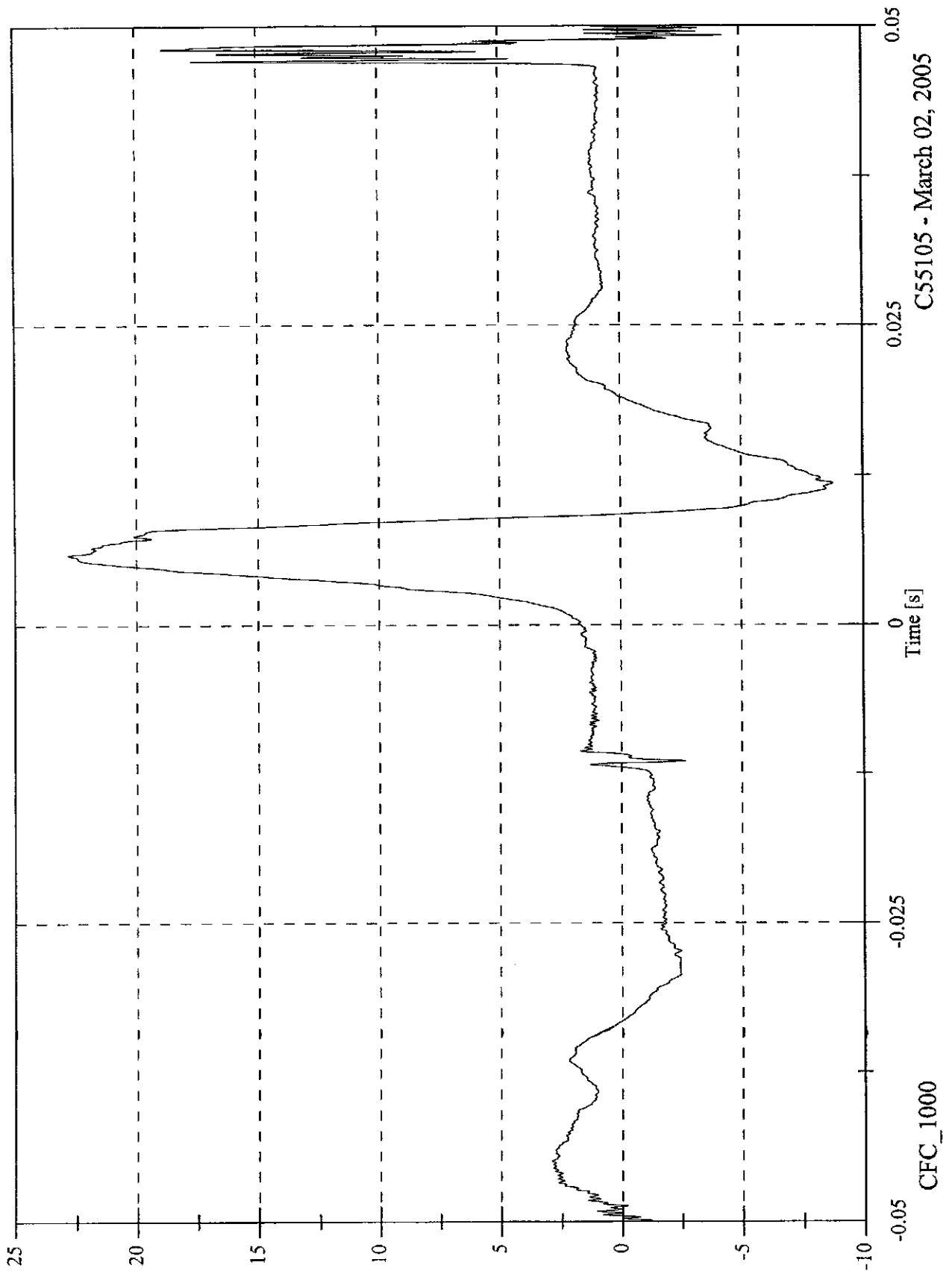


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

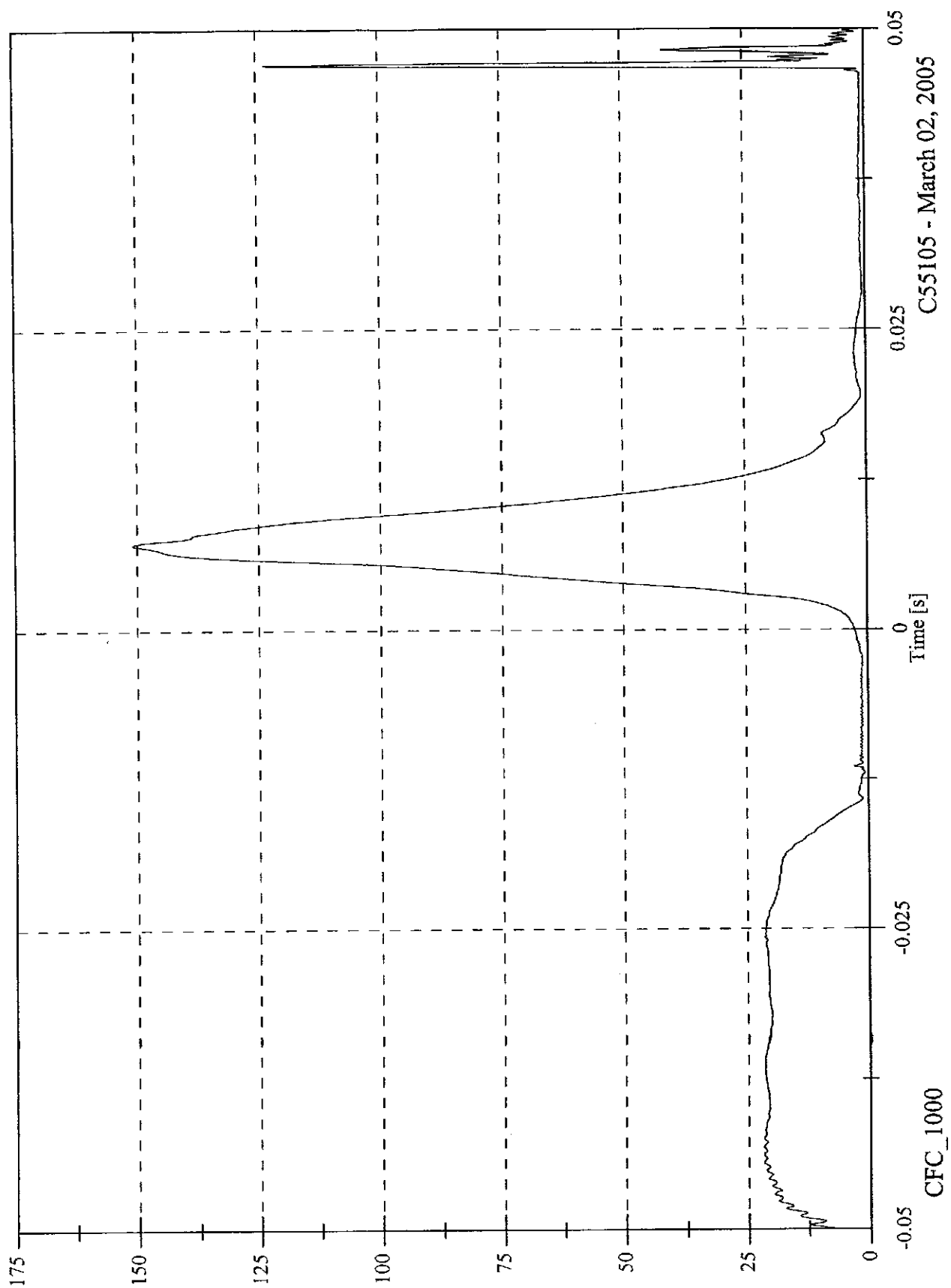
Max: 22.8 [g] at 0.006 [s]
Min: -8.8 [g] at 0.012 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

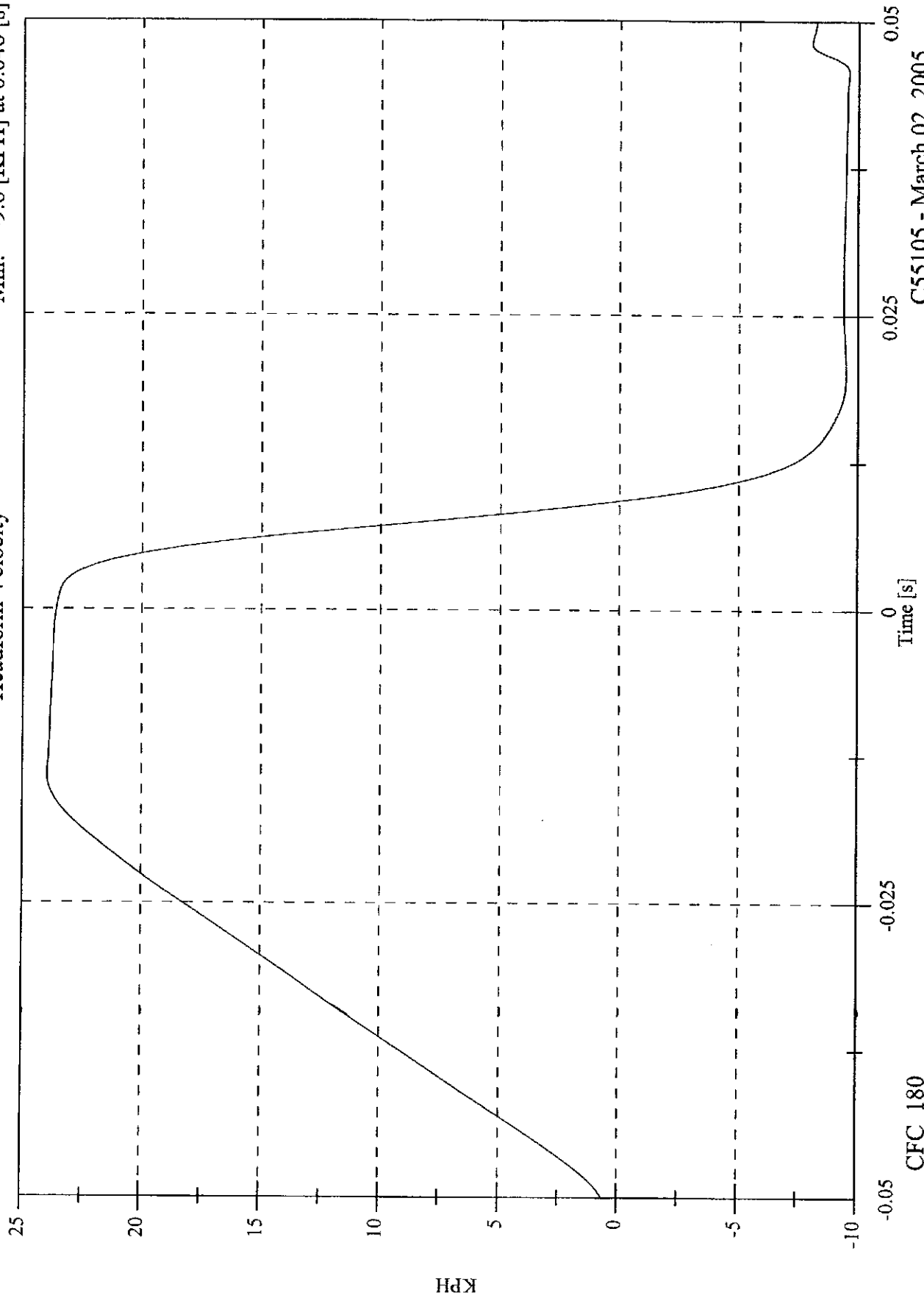
Max: 150.9 [g] at 0.007 [s]
Min: 0.7 [g] at 0.028 [s]



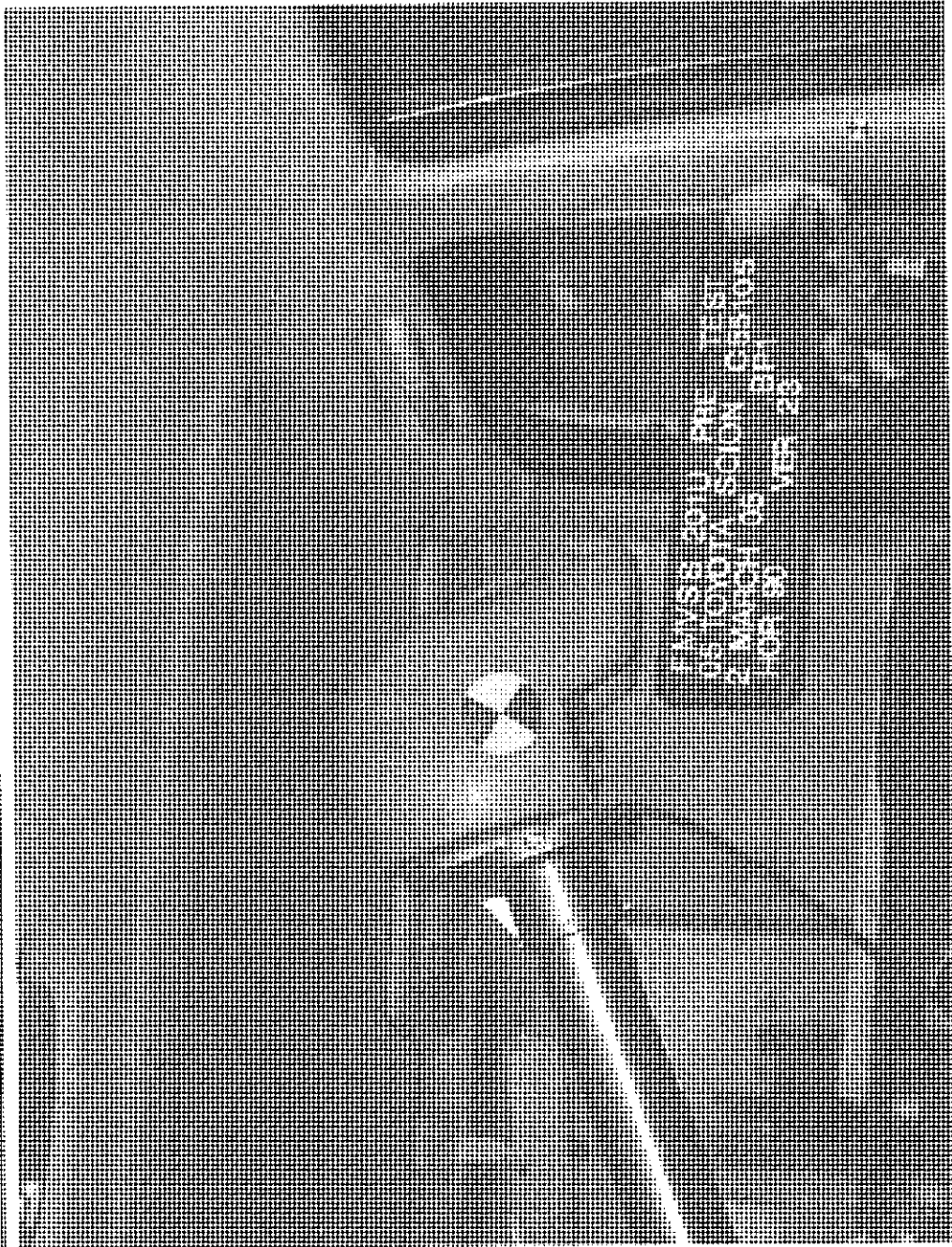
FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 24.0 [KPH] at -0.014 [s]
Min: -9.6 [KPH] at 0.046 [s]

Headform Velocity



C55105 - March 02, 2005



11/15/88 2011 AM T101
001001A SCOW CH101
2 MARCH 88
FOR 88 VER 28

PRE-IMPACT BPI

8754-P511-03



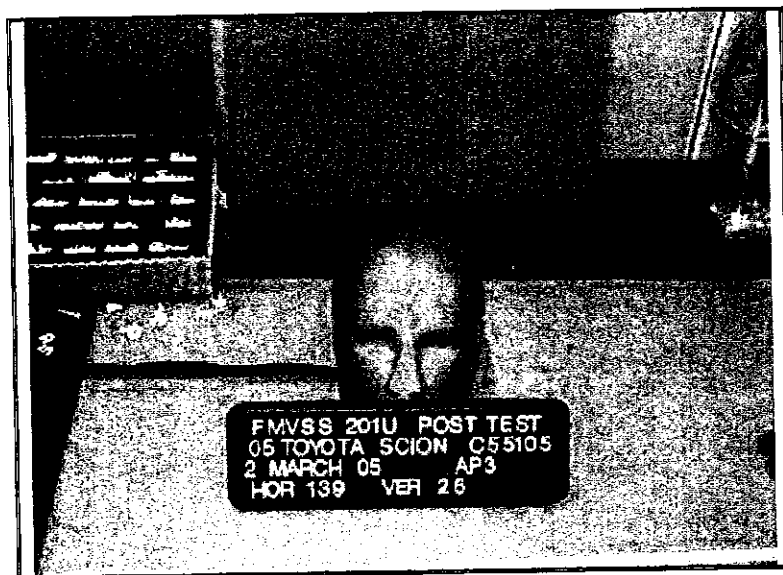
POST-IMPACT EPI

8754-PH-03

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	06
Test Date:	03/02/05
Target Location:	A-Pillar
Target Code:	AP3
Horizontal Impact Angle:	139°
Vertical Impact Angle:	25°
Ambient Temperature:	24 C°
Relative Humidity:	17
Time of Impact:	13:40
Headform Number:	0062

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	0	☐ mm right	☐ mm left
On Centerline	12	mm up	



POST-IMPACT AP3 HEADFORM

Free Motion HIC	424.2
HIC(d)	486.4
Impact Velocity (kph)	23.82
HIC T1 (msec)	1.0
HIC T2 (msec)	11.1

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - AP3

FMH Headform 0062

Location: AP3

Test Date: March 02, 2005

Work File: AP3

-----TEST RESULTS-----

Lab Temperature: 24 C

HICd: 486.4

Lab Humidity: 17 %

HIC (36ms): 424.2

Velocity at Impact: 23.82 KPH

t1: 1.0 msec

t2: 11.1 msec

Free Flight Distance: 212.85 mm

Duration: 10.1 msec

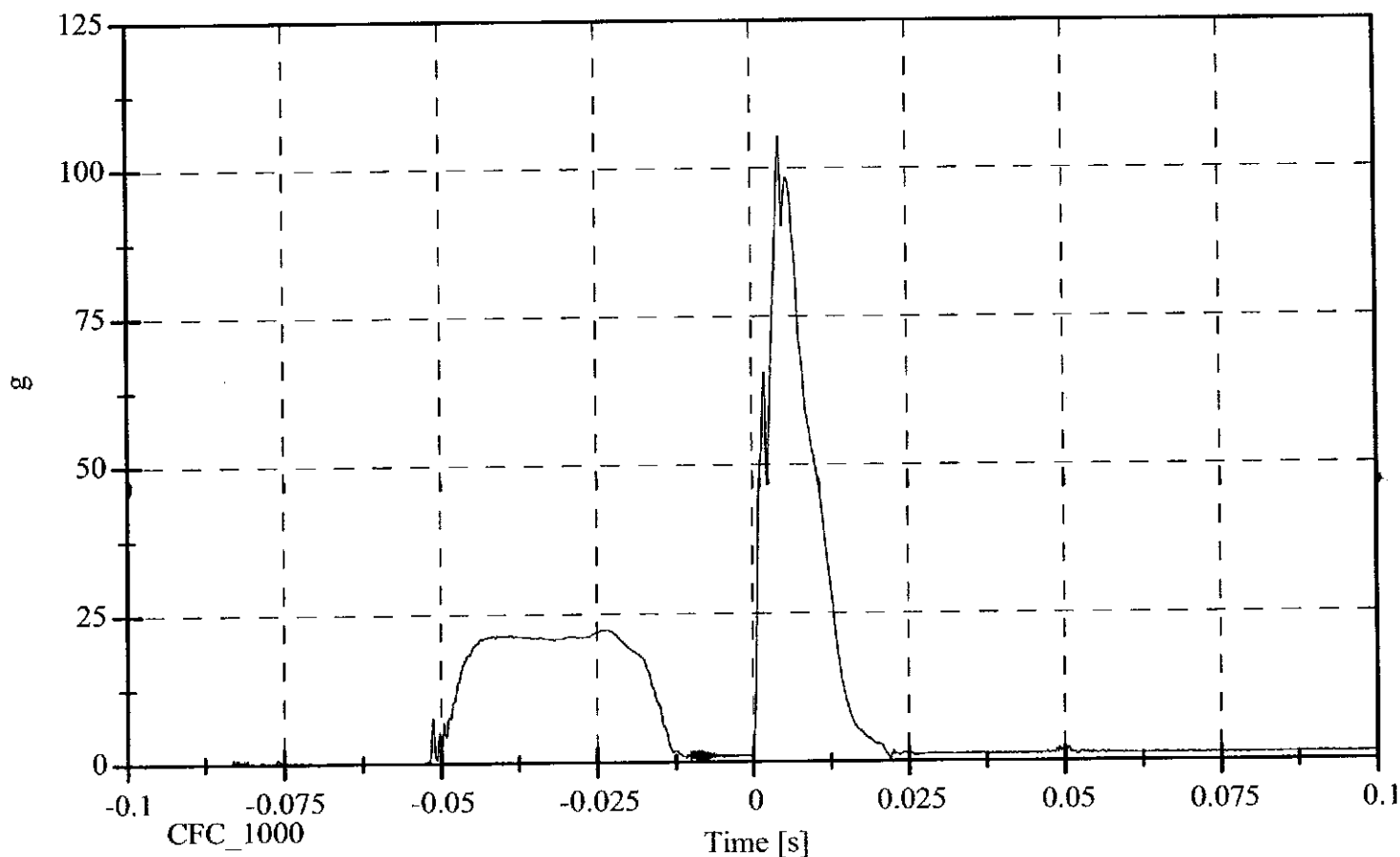
Maximum: 105.3 g

Average Acceleration: 8.3 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 105.3 [g] at 0.004 [s]

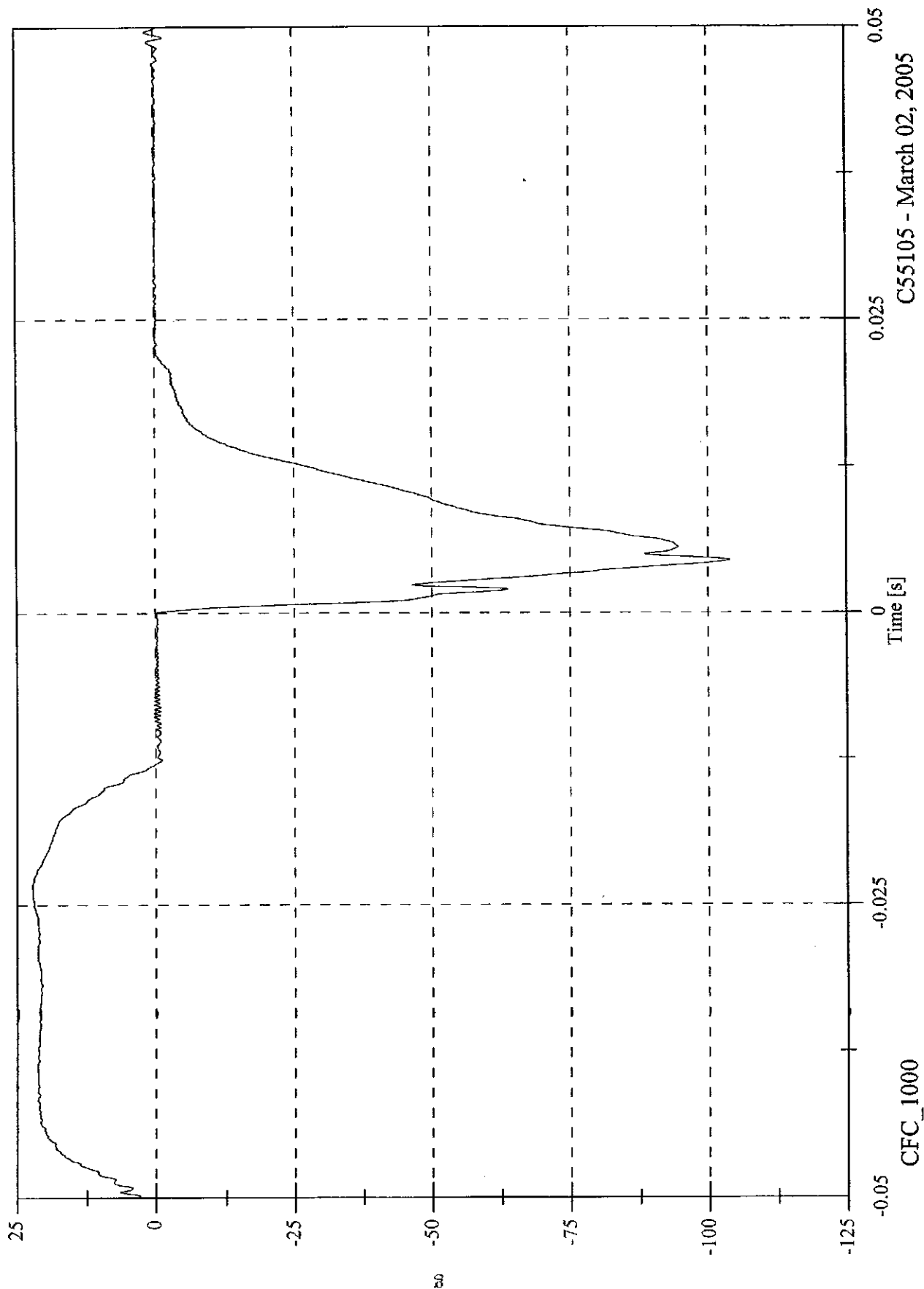
Min: 0.0 [g] at -0.061 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 22.3 [g] at -0.023 [s]
Min: -104.0 [g] at 0.004 [s]

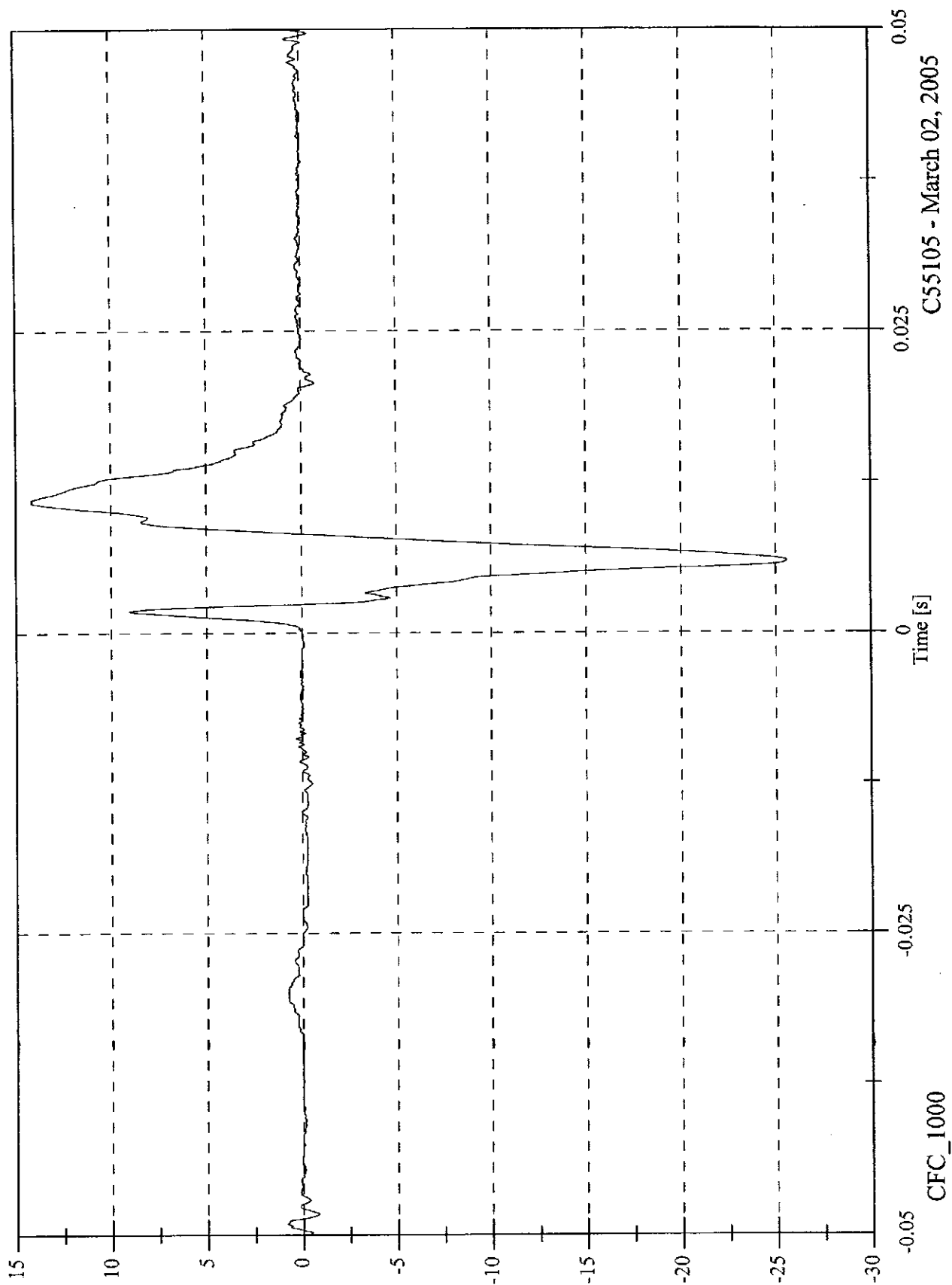


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

Max: 14.2 [g] at 0.011 [s]
Min: -25.6 [g] at 0.006 [s]

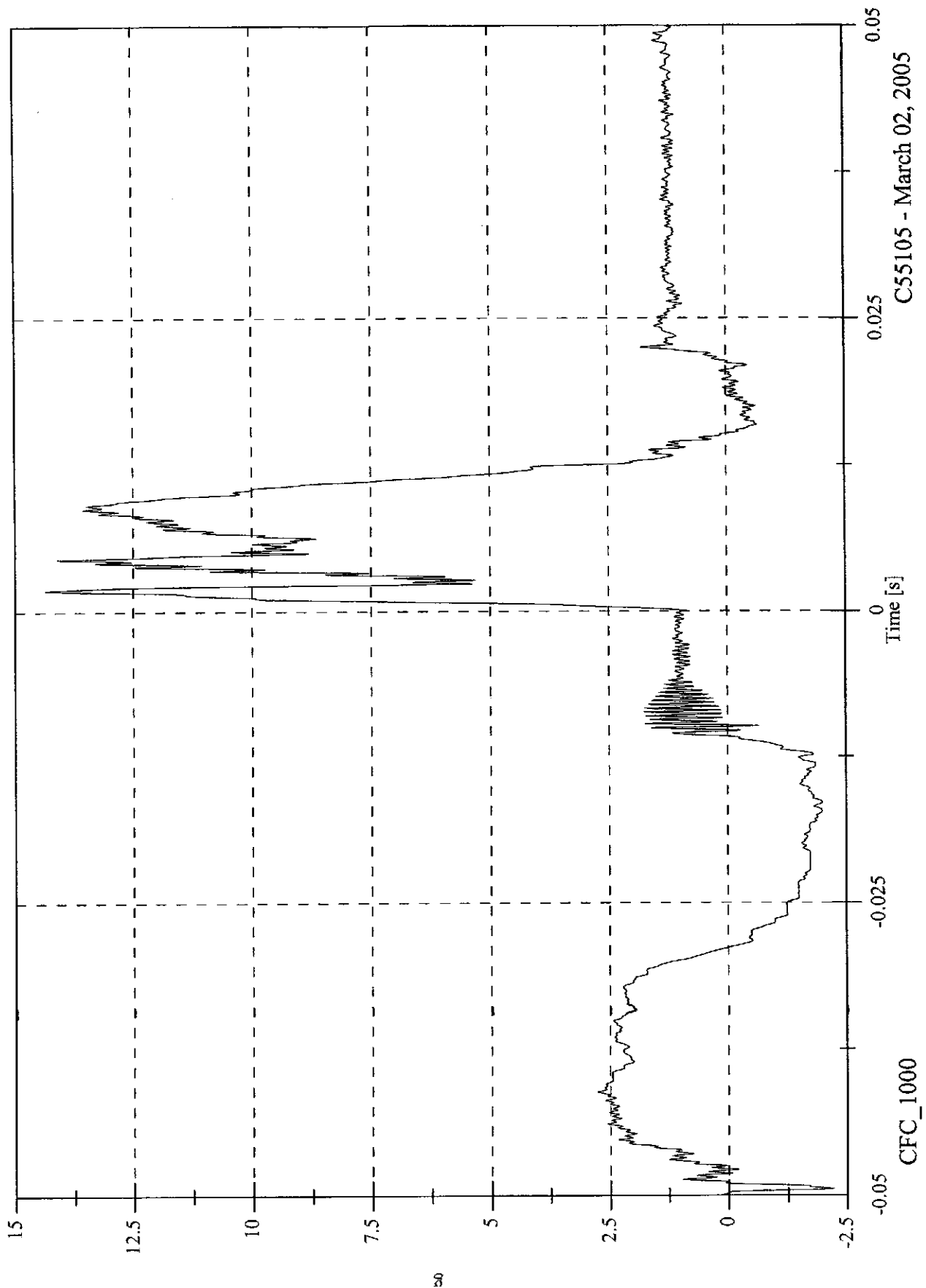


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

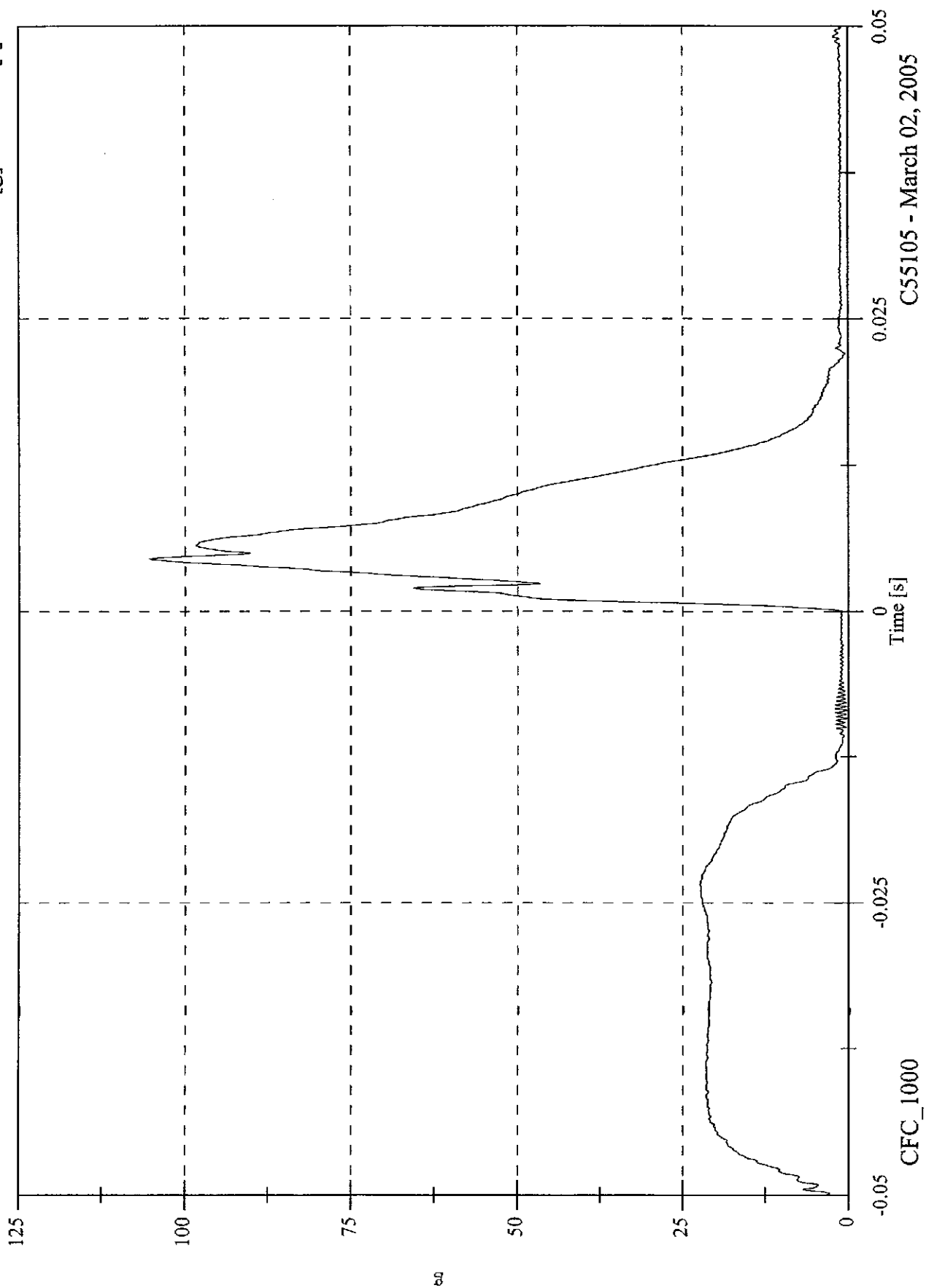
Max: 14.4 [g] at 0.002 [s]
Min: -2.2 [g] at -0.049 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

Max: 105.3 [g] at 0.004 [s]
Min: 0.2 [g] at -0.009 [s]



CFC_1000

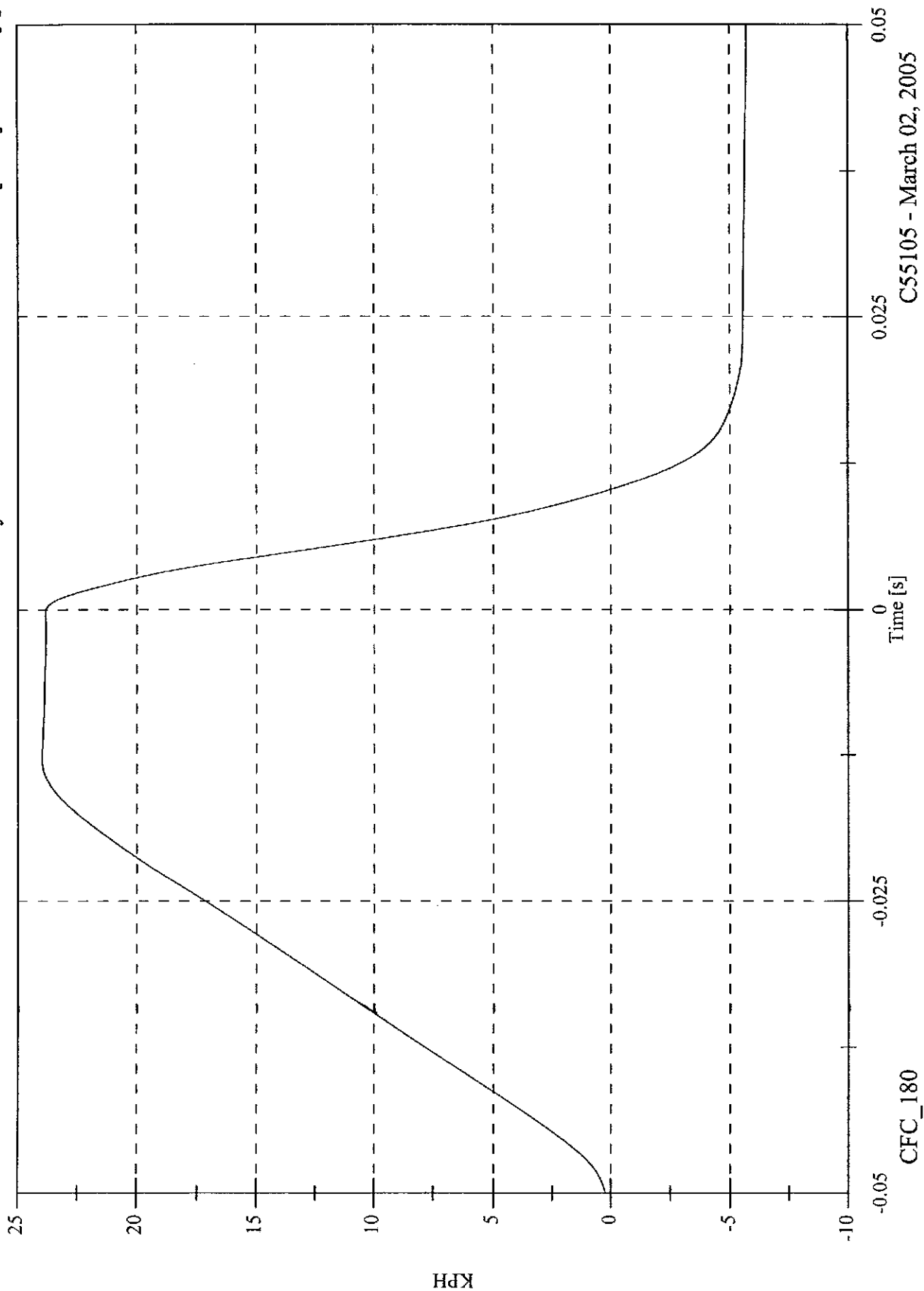
Time [s]

C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 24.0 [KPH] at -0.013 [s]
Min: -5.7 [KPH] at 0.049 [s]

Headform Velocity

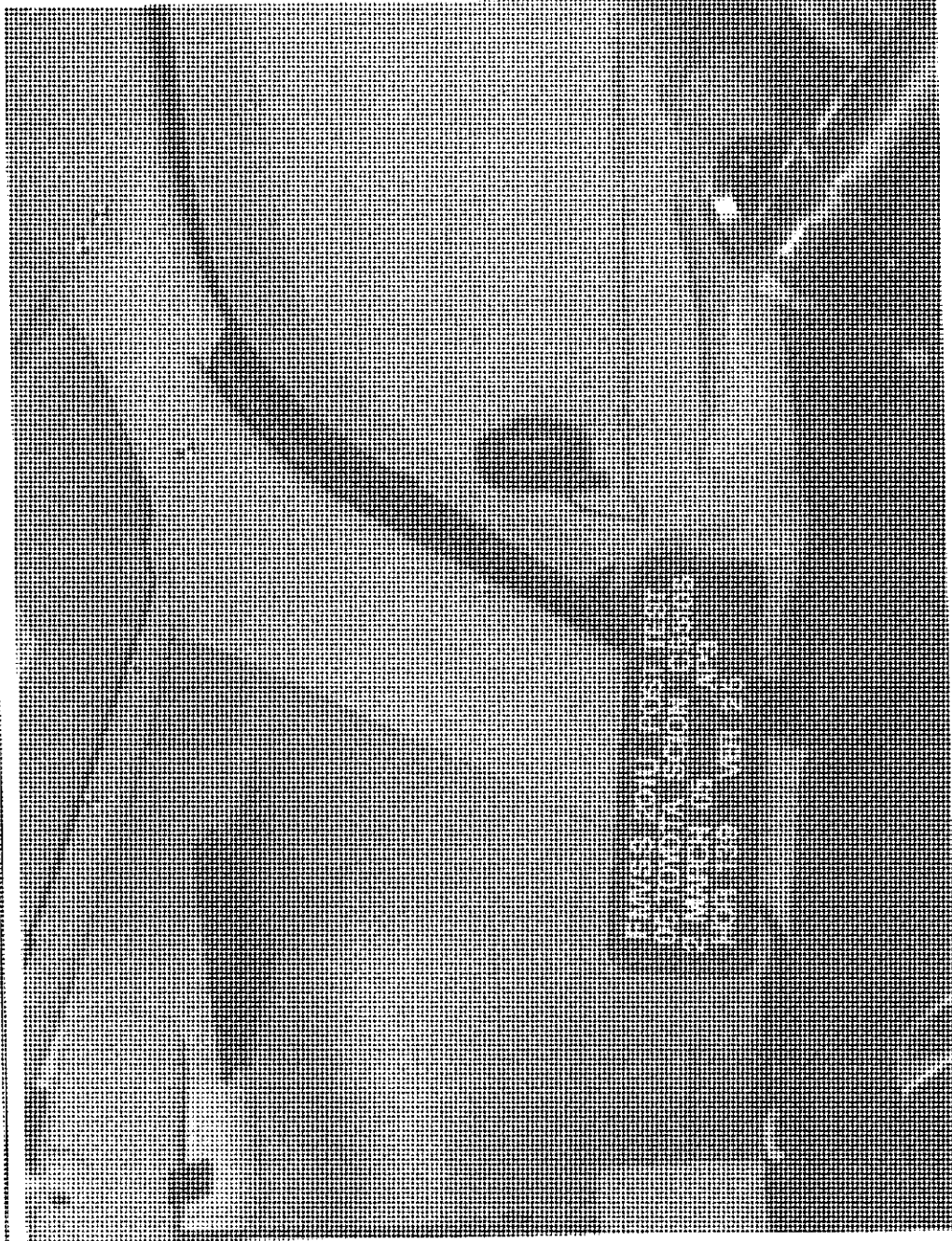


CFC_180



SECRET

SECRET



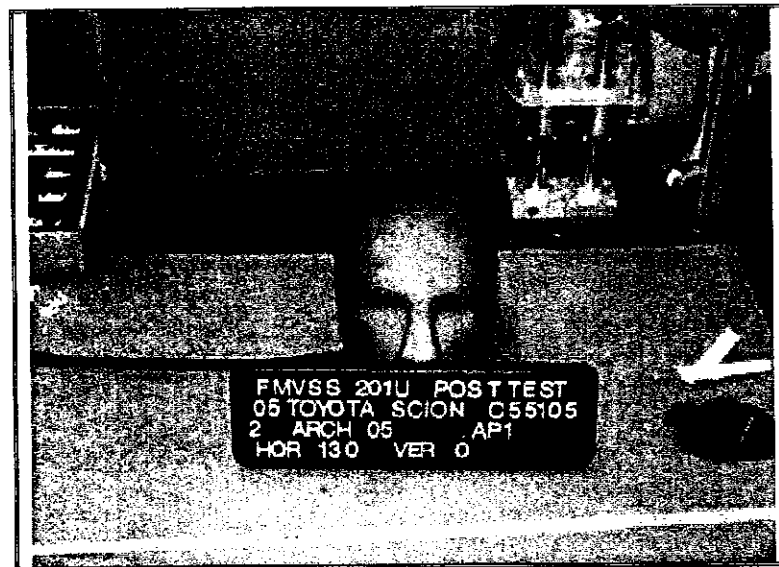
POST-IMPACT APS

8754-FMH-03

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	07
Test Date:	03/02/05
Target Location:	A-Pillar
Target Code:	AP1
Horizontal Impact Angle:	130°
Vertical Impact Angle:	0°
Ambient Temperature:	24 C°
Relative Humidity:	17
Time of Impact:	14:25
Headform Number:	0355

Impact Point Description (from lower midpoint on midsagittal line)				
On Centerline	35	☒ x	mm right	☐ mm left
On Centerline	5		mm up	



POST-IMPACT AP1 HEADFORM

Free Motion HIC	505.6
HIC(d)	547.9
Impact Velocity (kph)	23.75
HIC T1 (msec)	4.0
HIC T2 (msec)	11.9

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - AP1

FMH Headform 0355

Location: AP1

Test Date: March 02, 2005

Work File: AP1

TEST RESULTS

Lab Temperature: 24 C

HICd: 547.9

Lab Humidity: 17 %

HIC (36ms): 505.6

Velocity at Impact: 23.75 KPH

t1: 4.0 msec

t2: 11.9 msec

Duration: 7.9 msec

Average Acceleration: 8.3 g

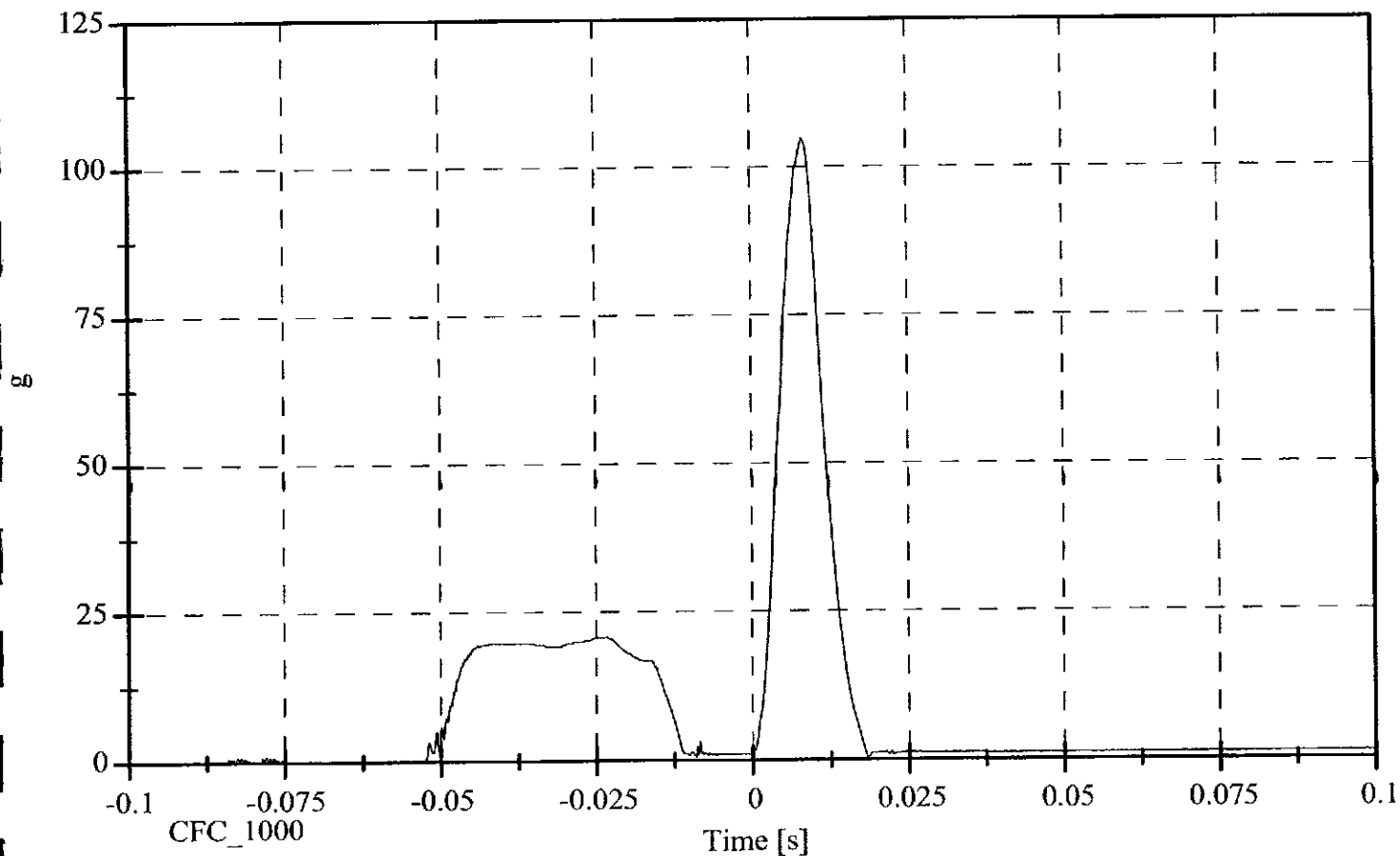
Free Flight Distance: 204.41 mm

Maximum: 104.7 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 104.7 [g] at 0.008 [s]

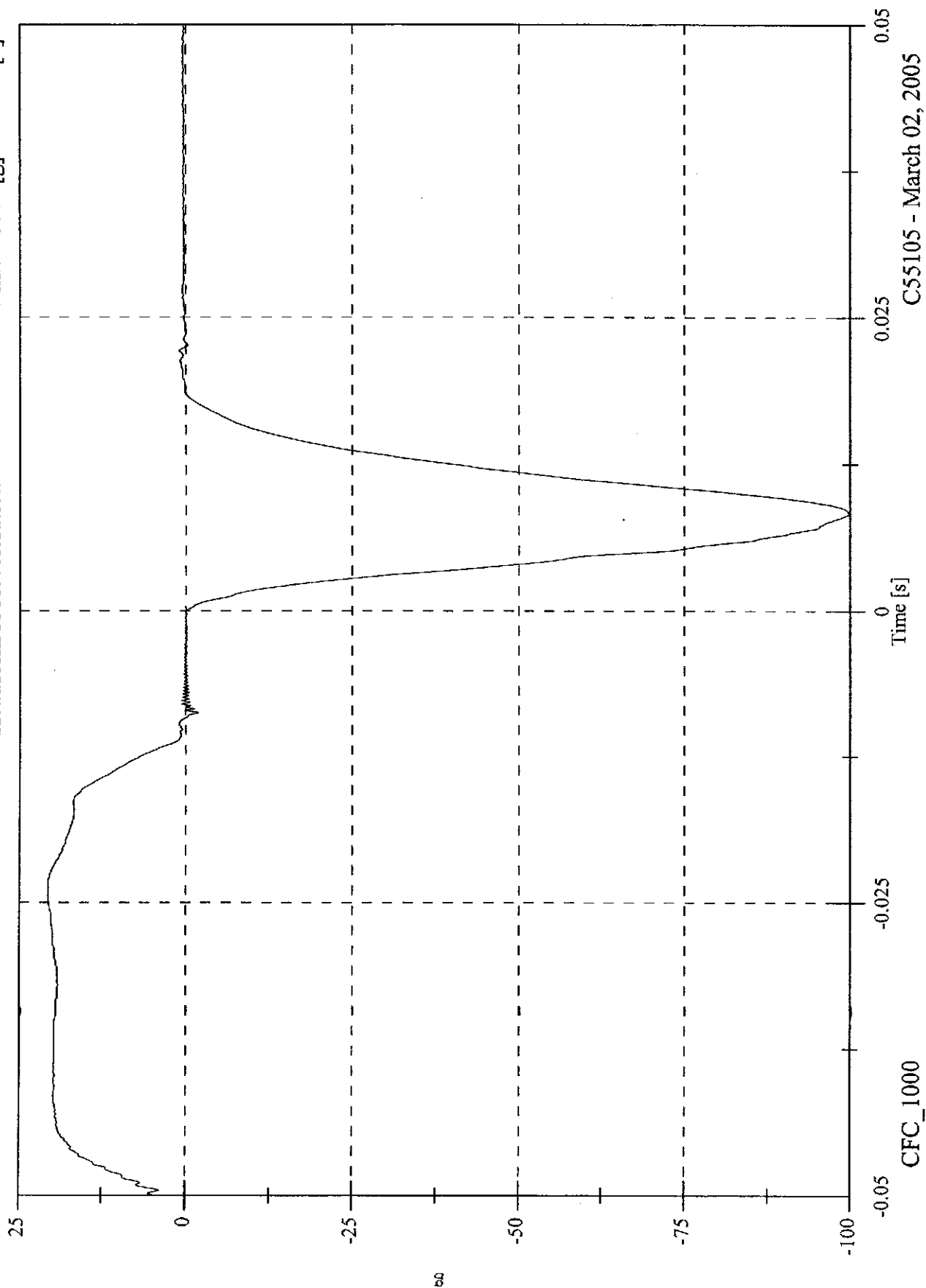
Min: 0.0 [g] at -0.086 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 20.7 [g] at -0.023 [s]
Min: -99.8 [g] at 0.008 [s]

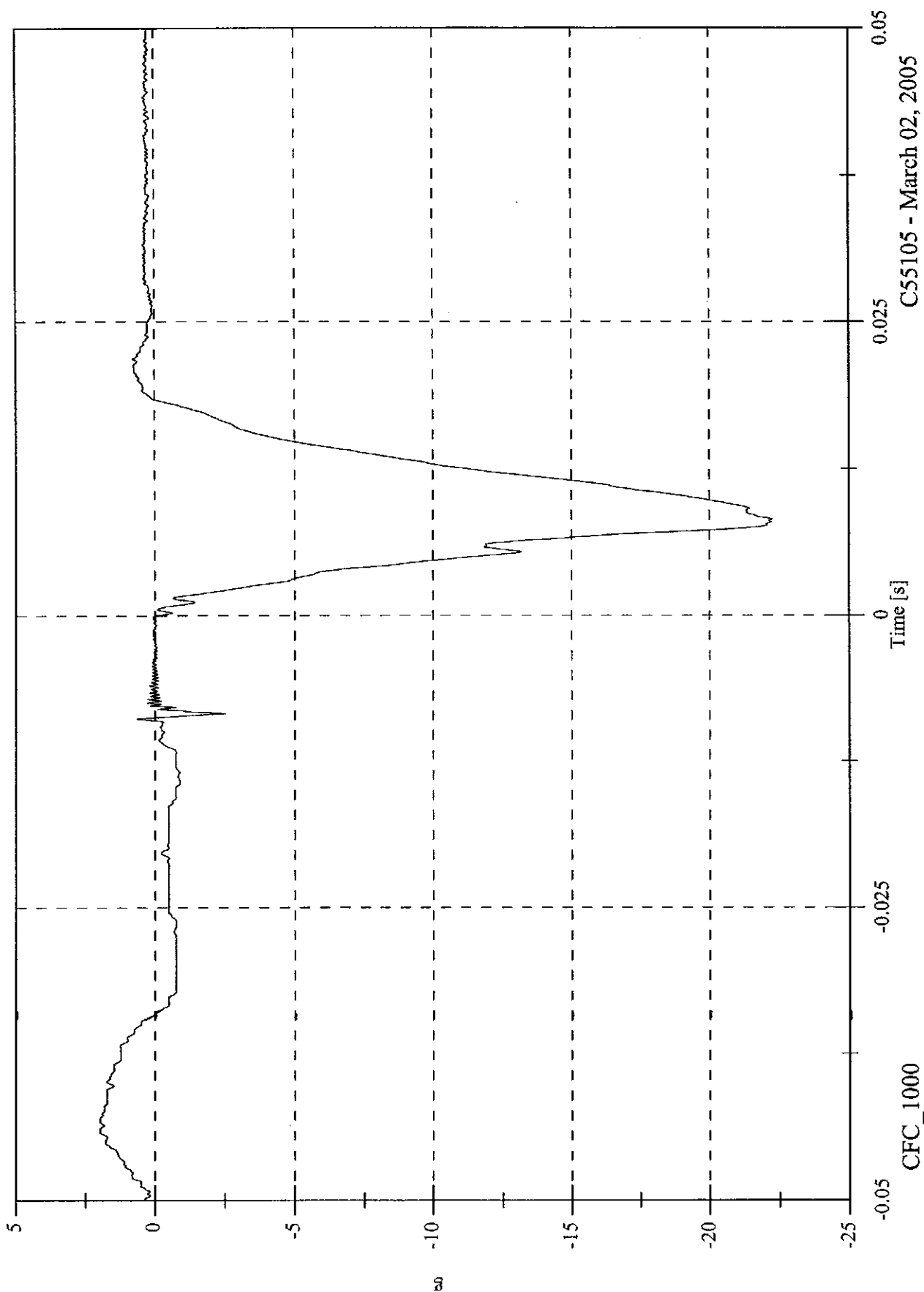


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

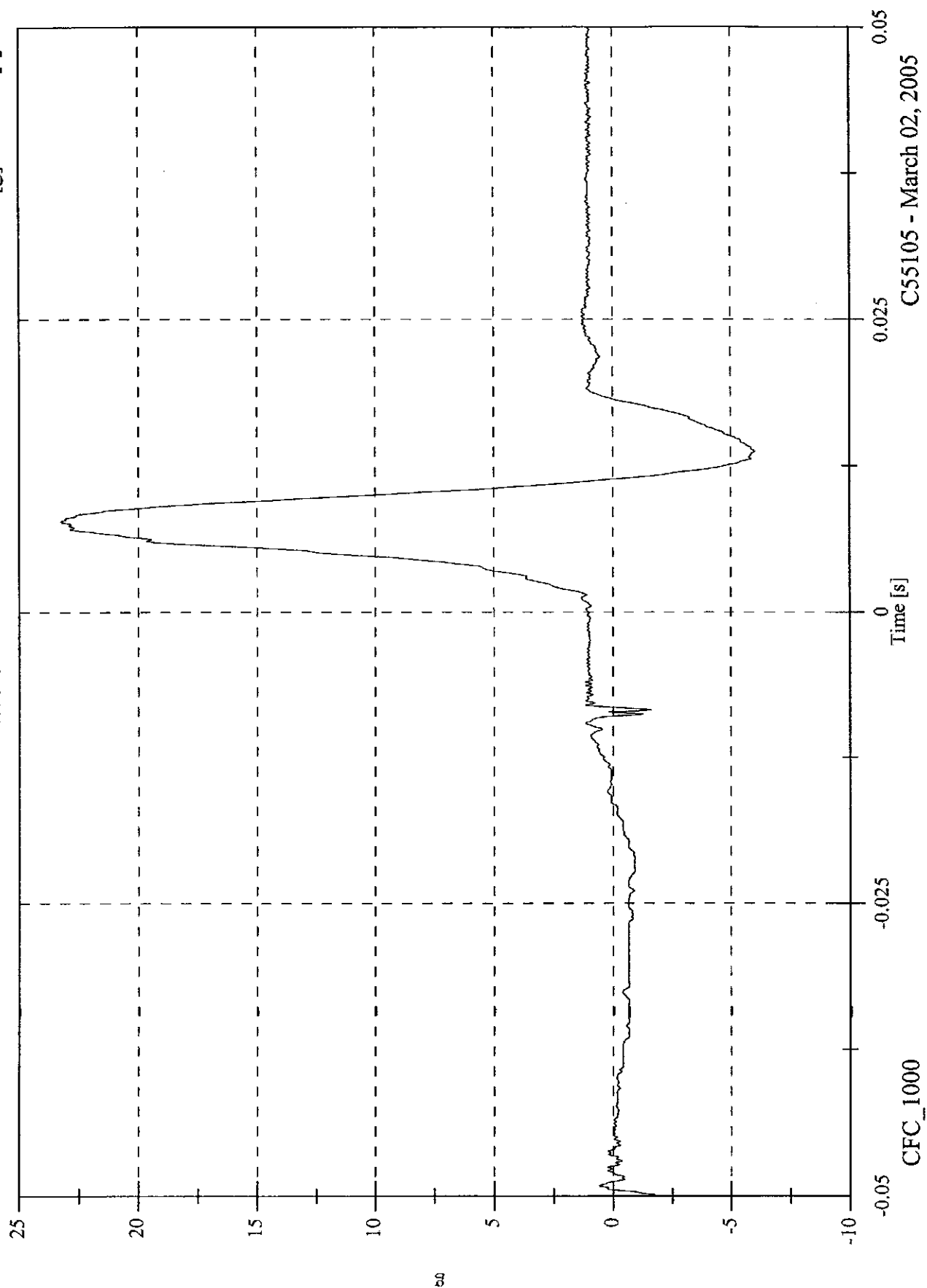
Max: 2.0 [g] at -0.044 [s]
Min: -22.2 [g] at 0.008 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

Max: 23.3 [g] at 0.008 [s]
Min: -6.0 [g] at 0.014 [s]

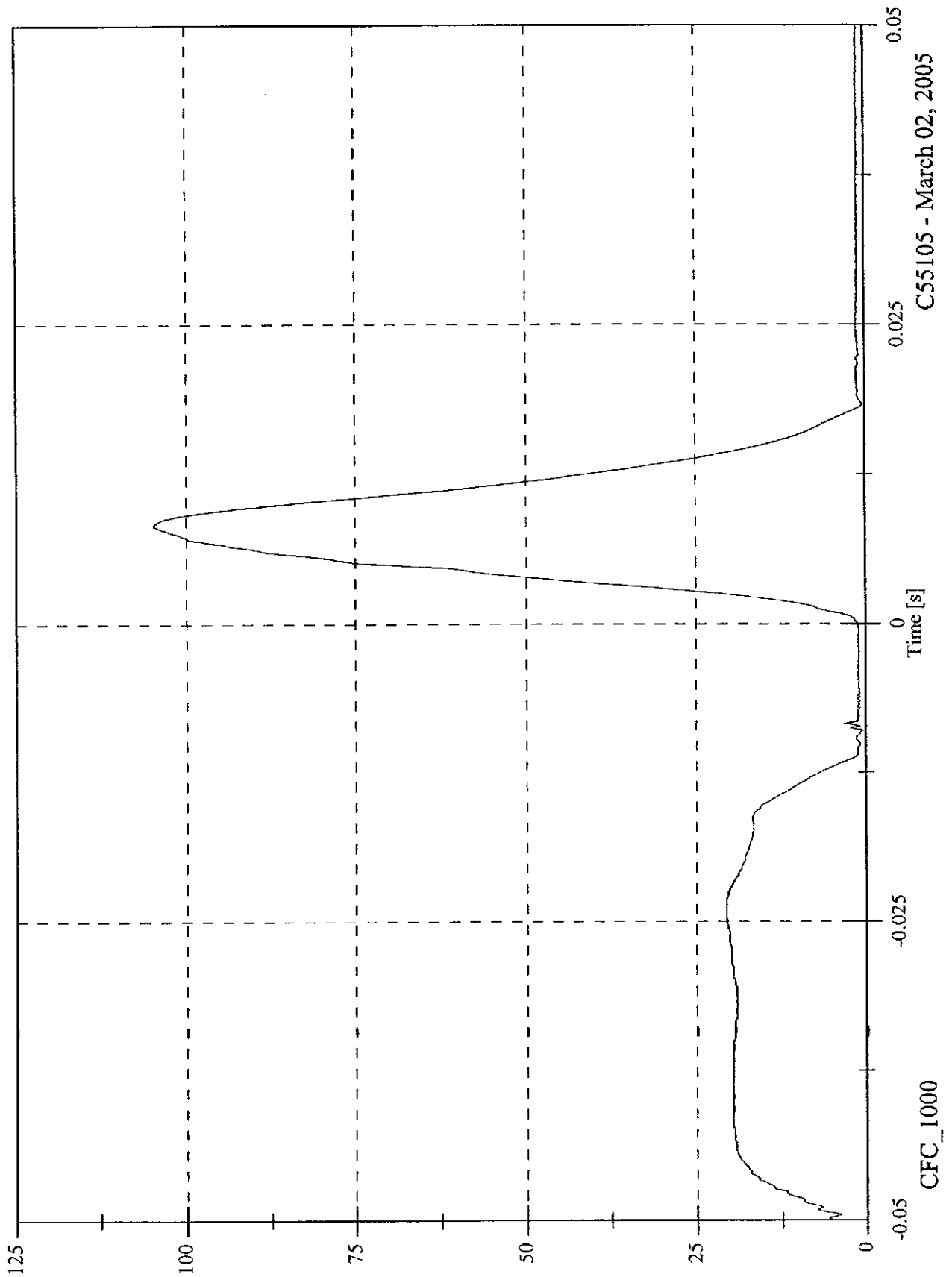


FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

Max: 104.7 [g] at 0.008 [s]

Min: 0.4 [g] at 0.018 [s]

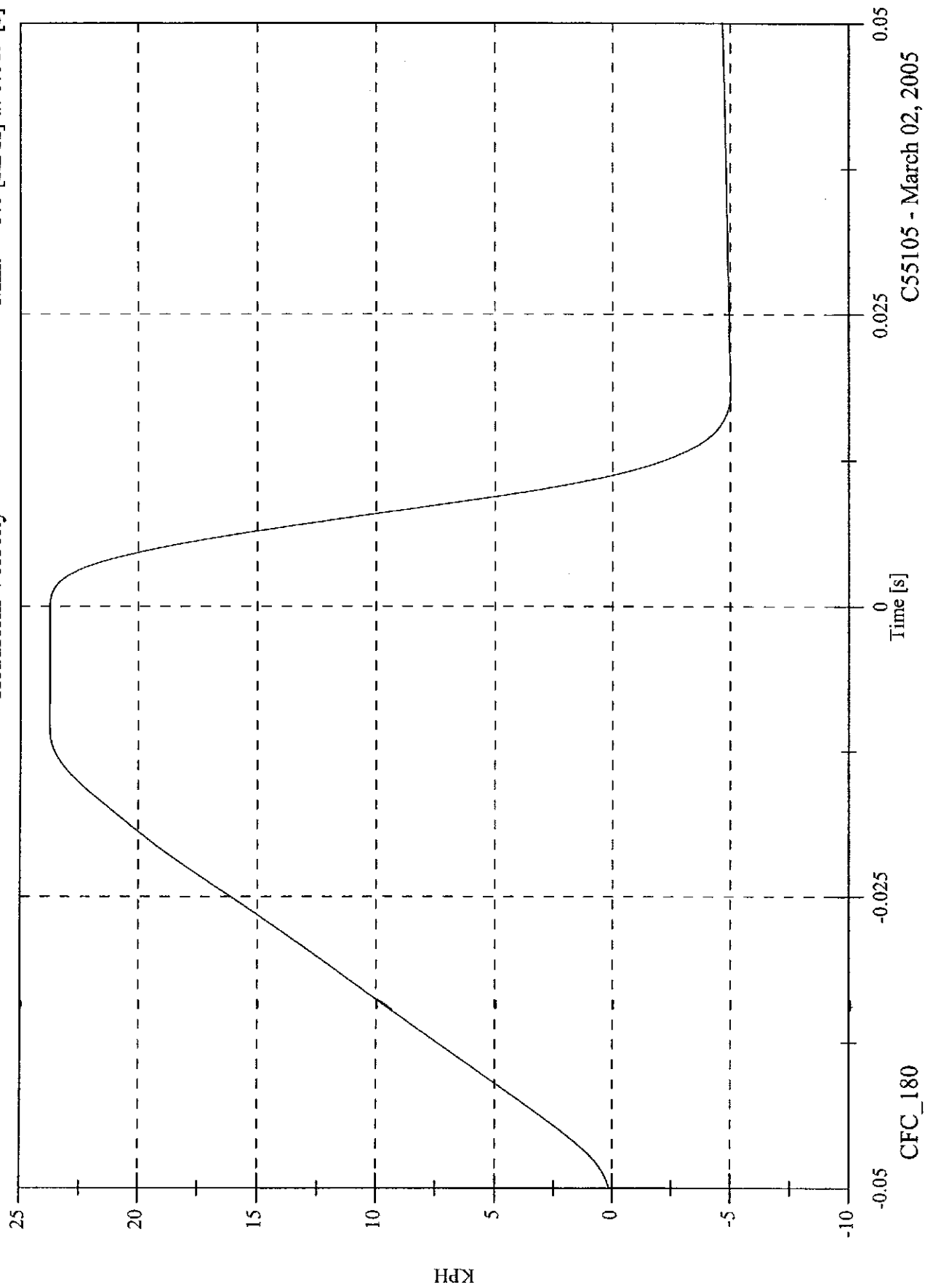


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

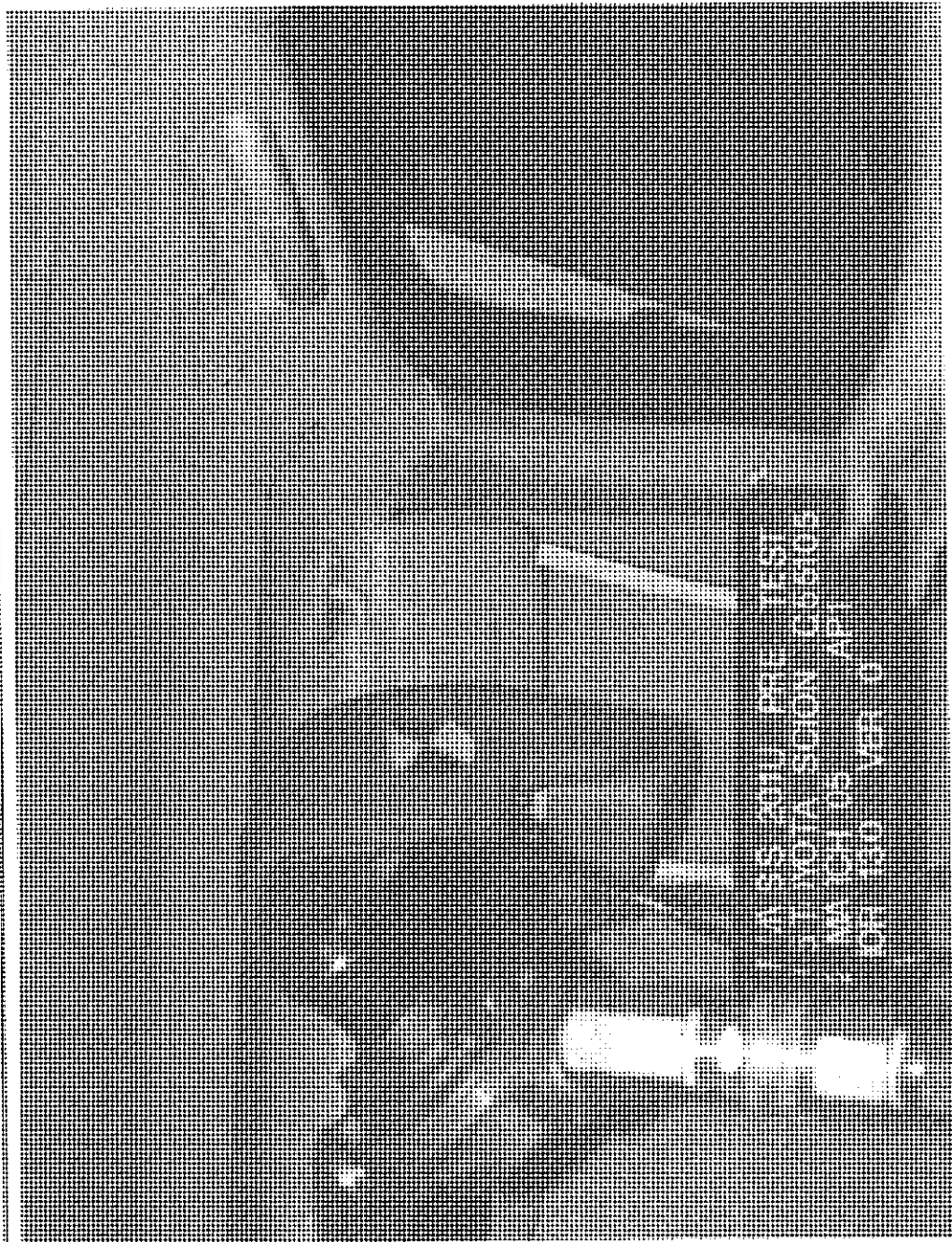
Max: 23.8 [KPH] at -0.009 [s]
 Min: -5.0 [KPH] at 0.019 [s]

Headform Velocity



CFC_180

C55105 - March 02, 2005



PRE-IMPACT API

8754-EMH-03

FMVSS 2010
2010 TOYOTA POST TEST
FOR 130 SCOR C5505
VER 0 APR 05

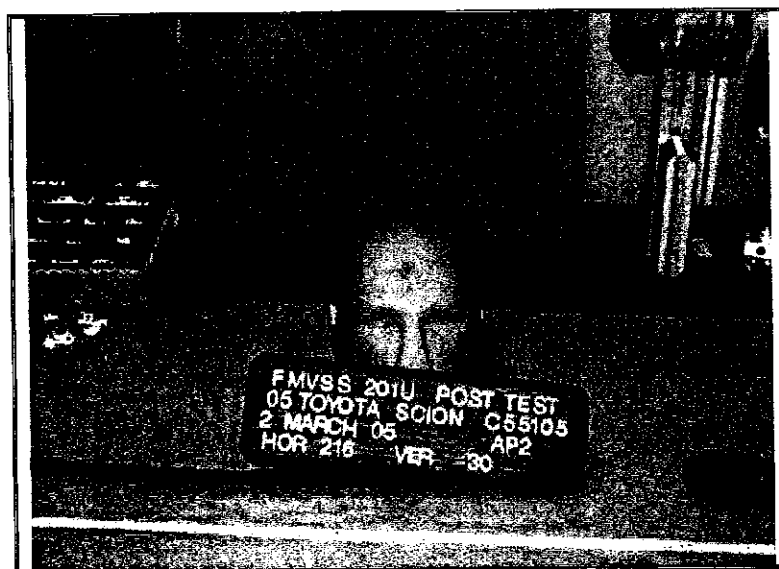
NY 100-1504

374-244-6

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	08
Test Date:	03/02/05
Target Location:	A-Pillar
Target Code:	AP2
Horizontal Impact Angle:	216°
Vertical Impact Angle:	30°
Ambient Temperature:	24 C°
Relative Humidity:	17
Time of Impact:	15:45
Headform Number:	1255

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	0	mm right	mm left
On Centerline	19	mm up	



POST-IMPACT AP2 HEADFORM

Free Motion HIC	370.1
HIC(d)	445.6
Impact Velocity (kph)	23.71
HIC T1 (msec)	1.0
HIC T2 (msec)	13.5

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - AP2

FMH Headform 1255

Location: AP2

Test Date: March 02, 2005

Work File: AP2

-----TEST RESULTS-----

Lab Temperature: 24 C

HICd: 445.6

Lab Humidity: 17 %

HIC (36ms): 370.1

Velocity at Impact: 23.71 KPH

t1: 1.0 msec

t2: 13.5 msec

Free Flight Distance: 211.04 mm

Duration: 12.5 msec

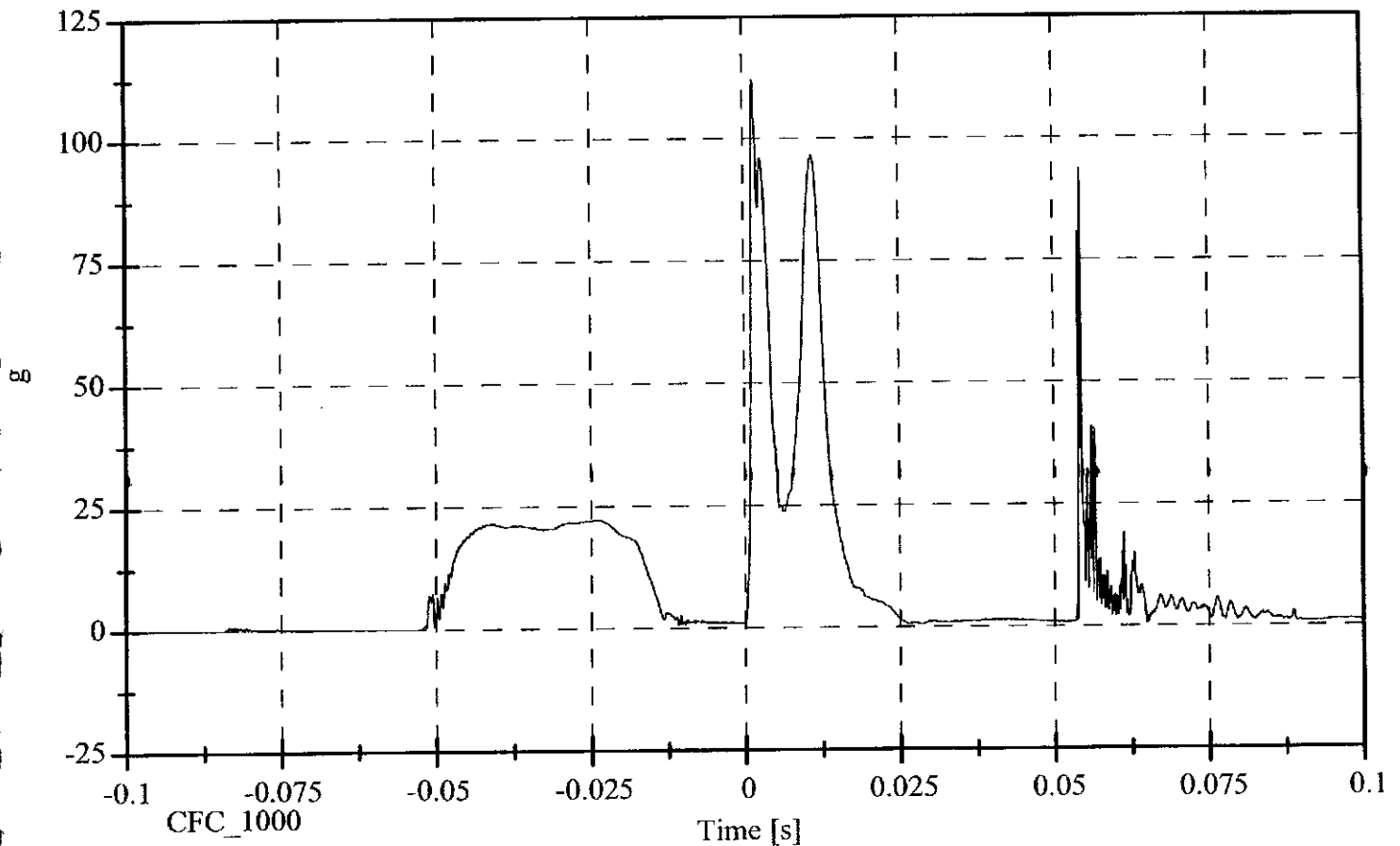
Maximum: 112.1 g

Average Acceleration: 9.3 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 112.1 [g] at 0.002 [s]

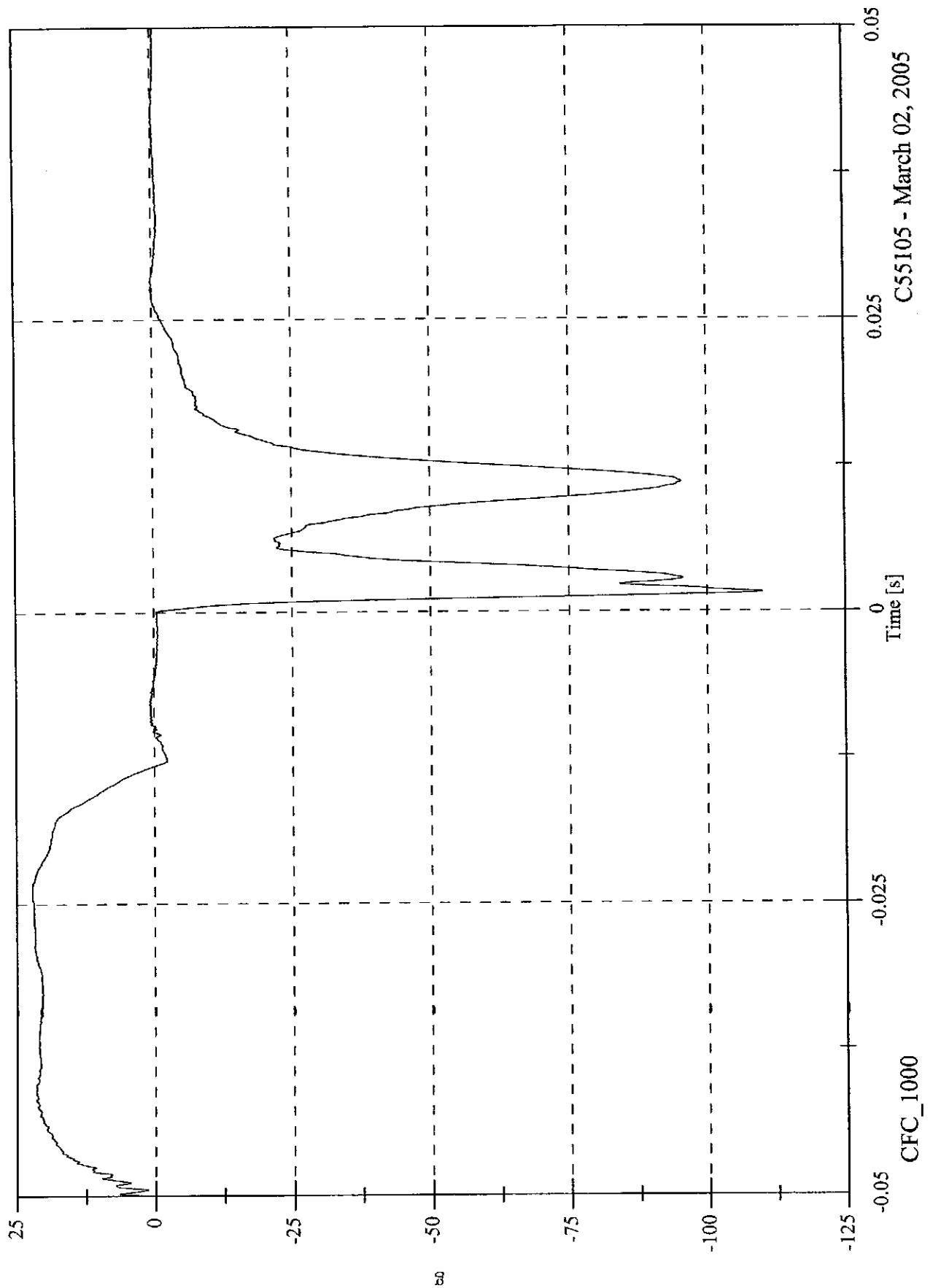
Min: -0.0 [g] at -0.099 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 22.2 [g] at -0.023 [s]
Min: -110.0 [g] at 0.002 [s]

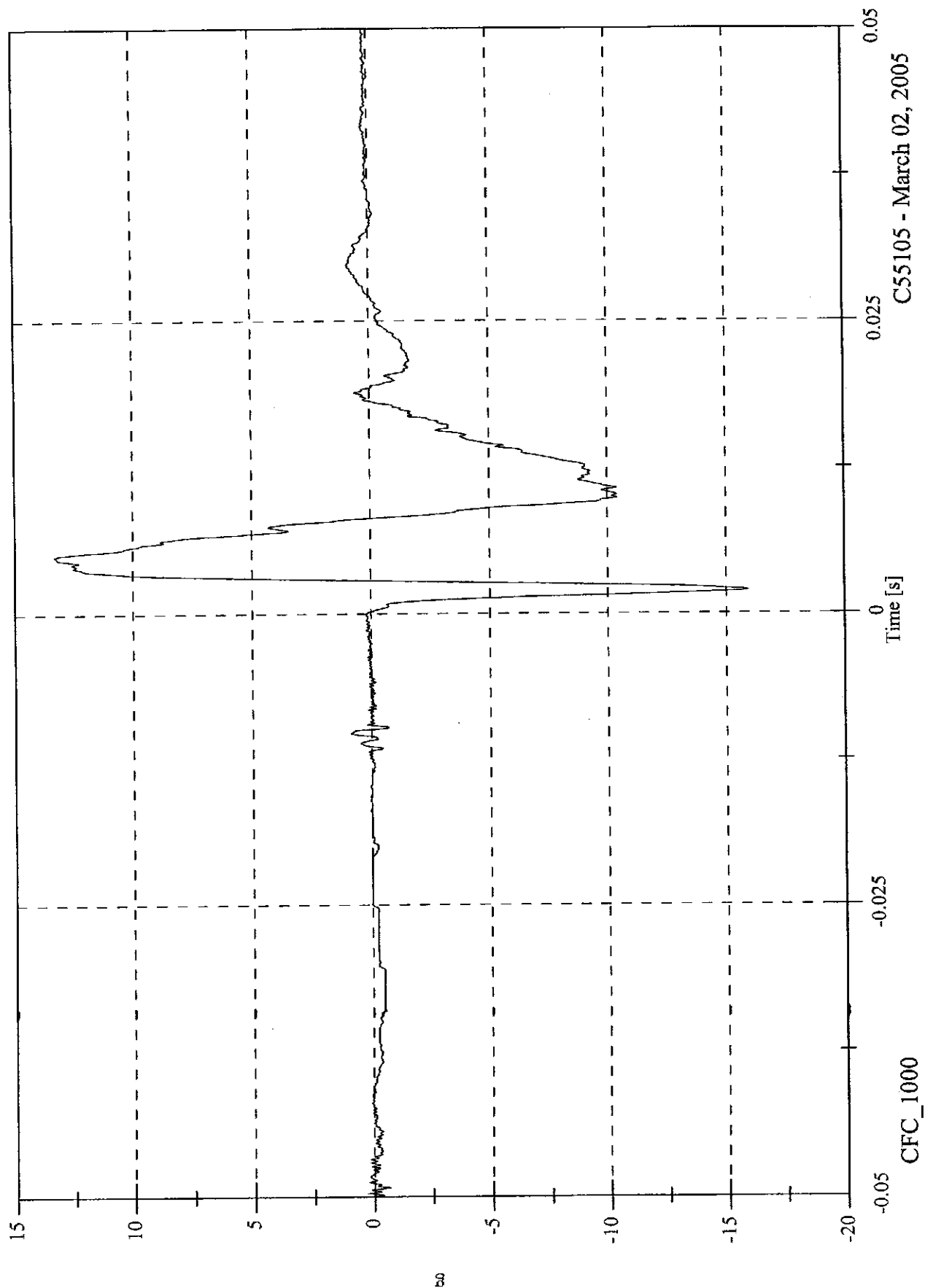


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

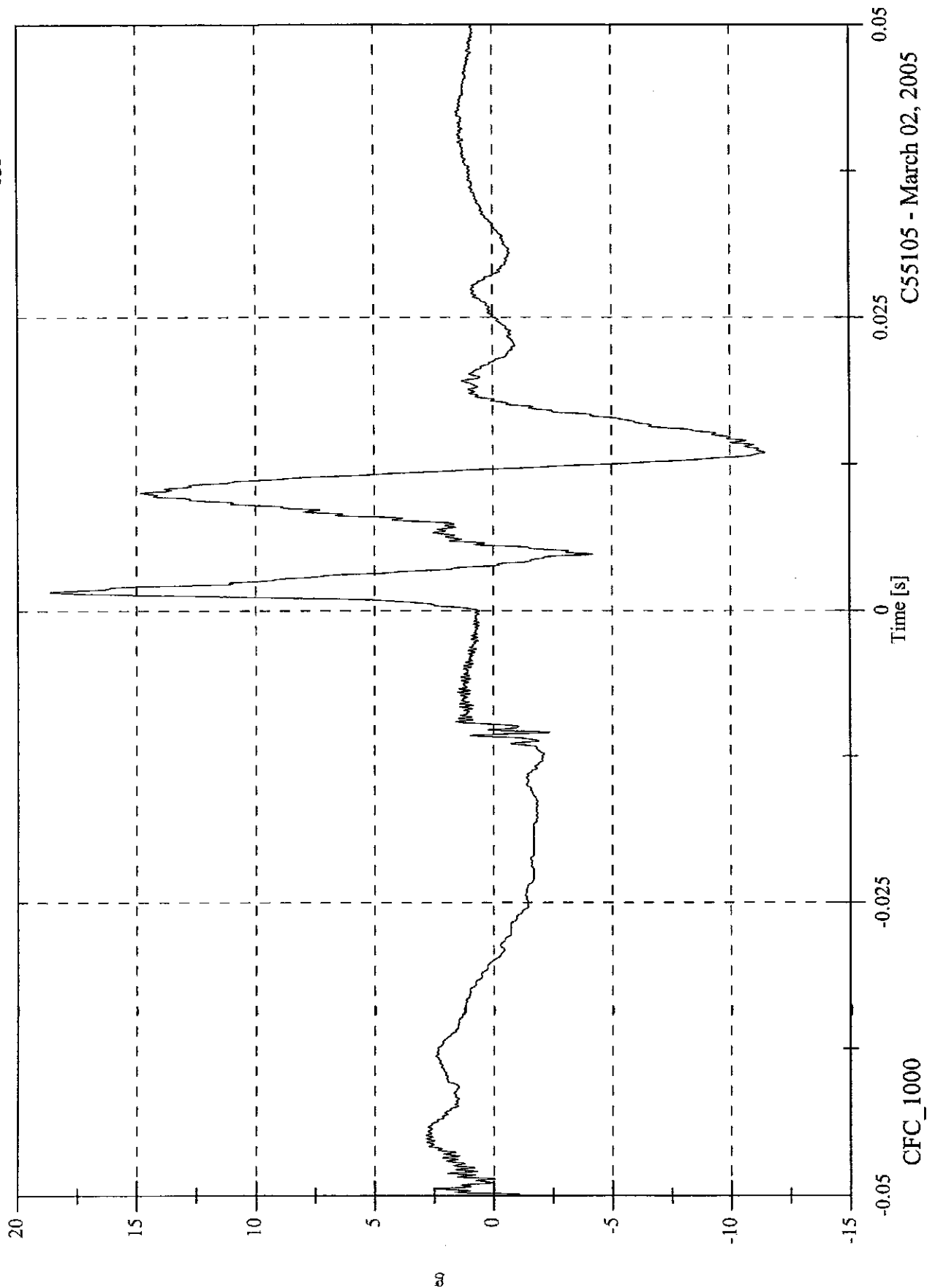
Max: 13.3 [g] at 0.005 [s]
Min: -15.9 [g] at 0.002 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

Max: 18.6 [g] at 0.002 [s]
Min: -11.5 [g] at 0.014 [s]

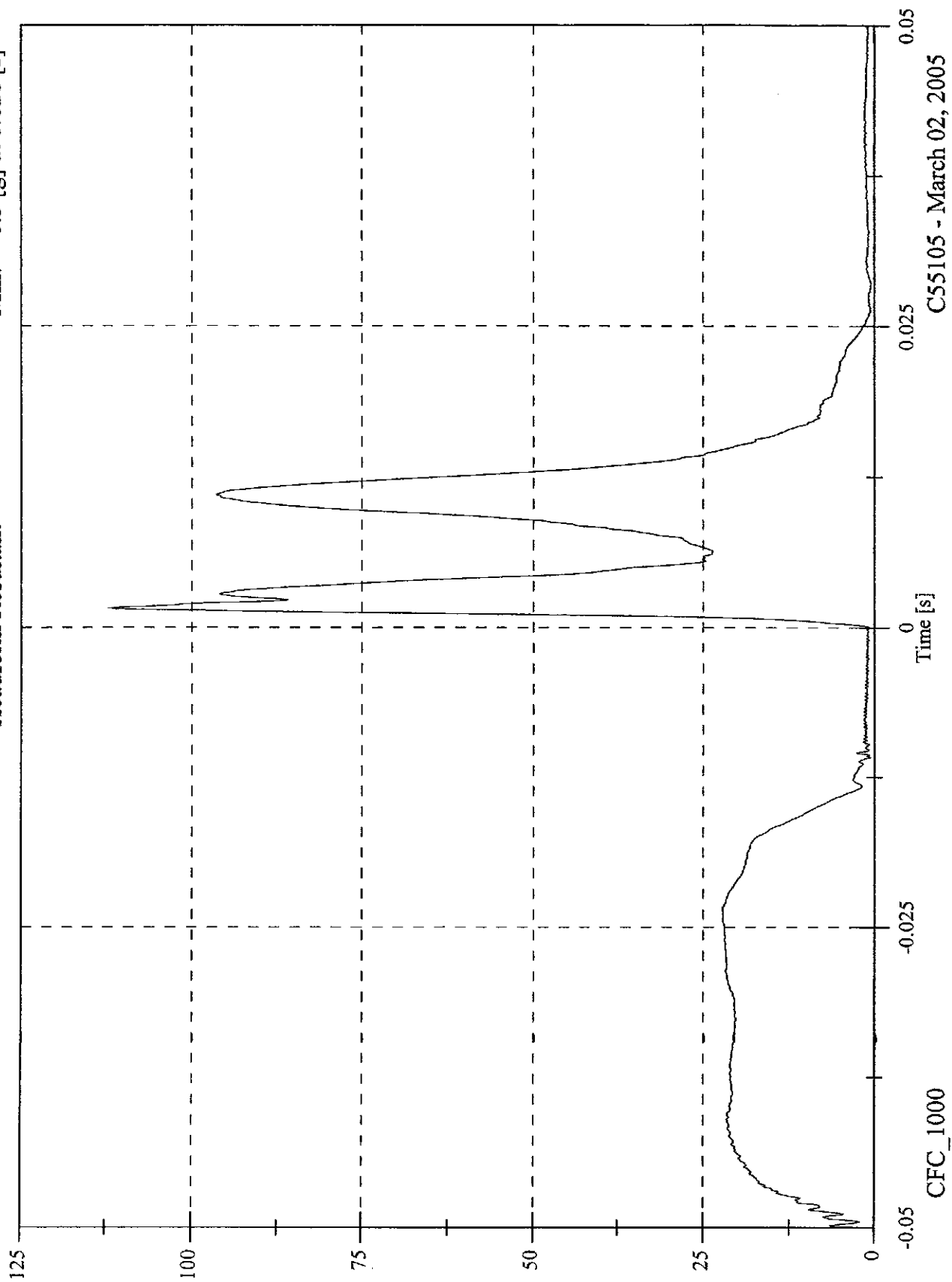


C55105 - March 02, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

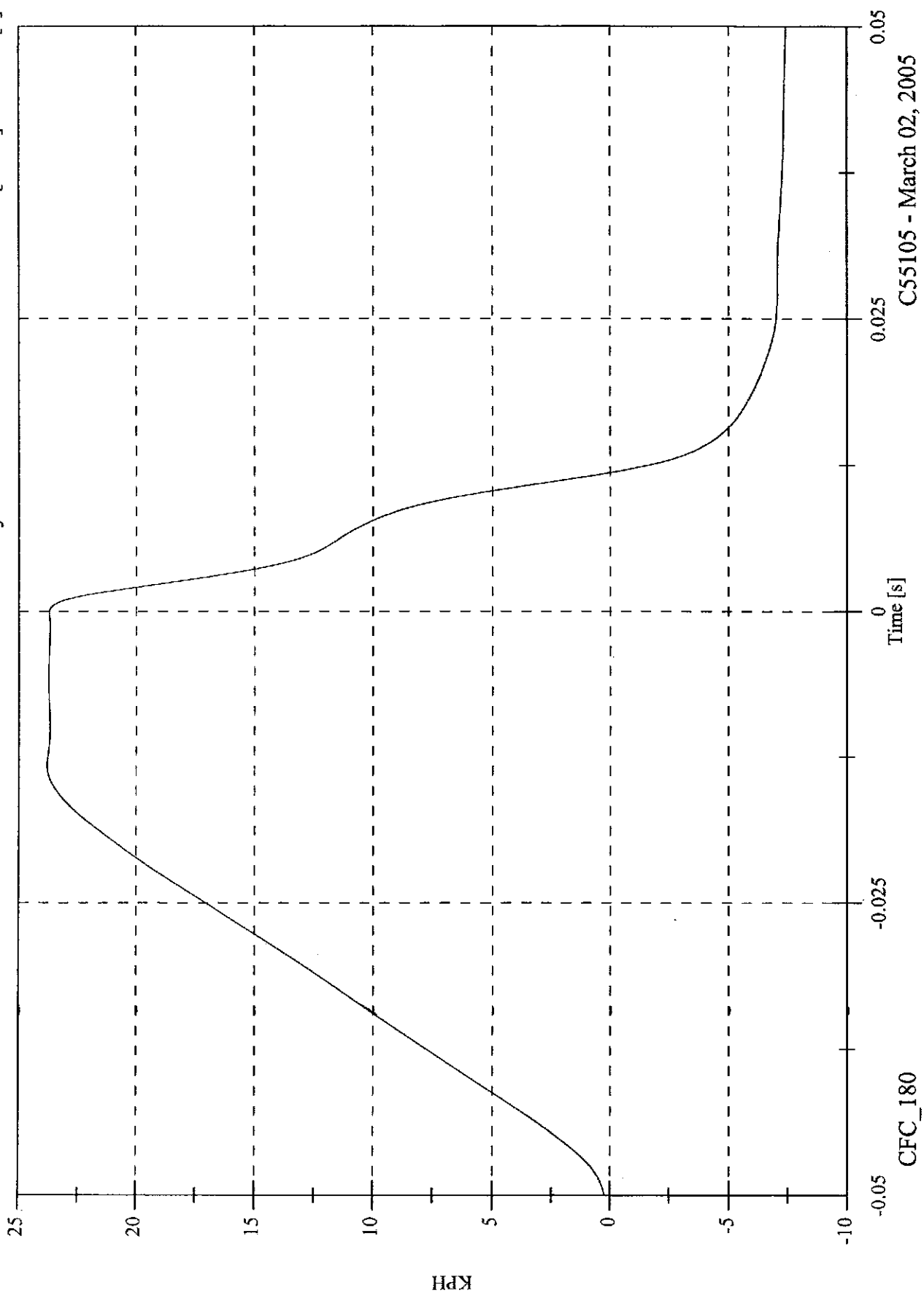
Max: 112.1 [g] at 0.002 [s]
Min: 0.5 [g] at 0.028 [s]



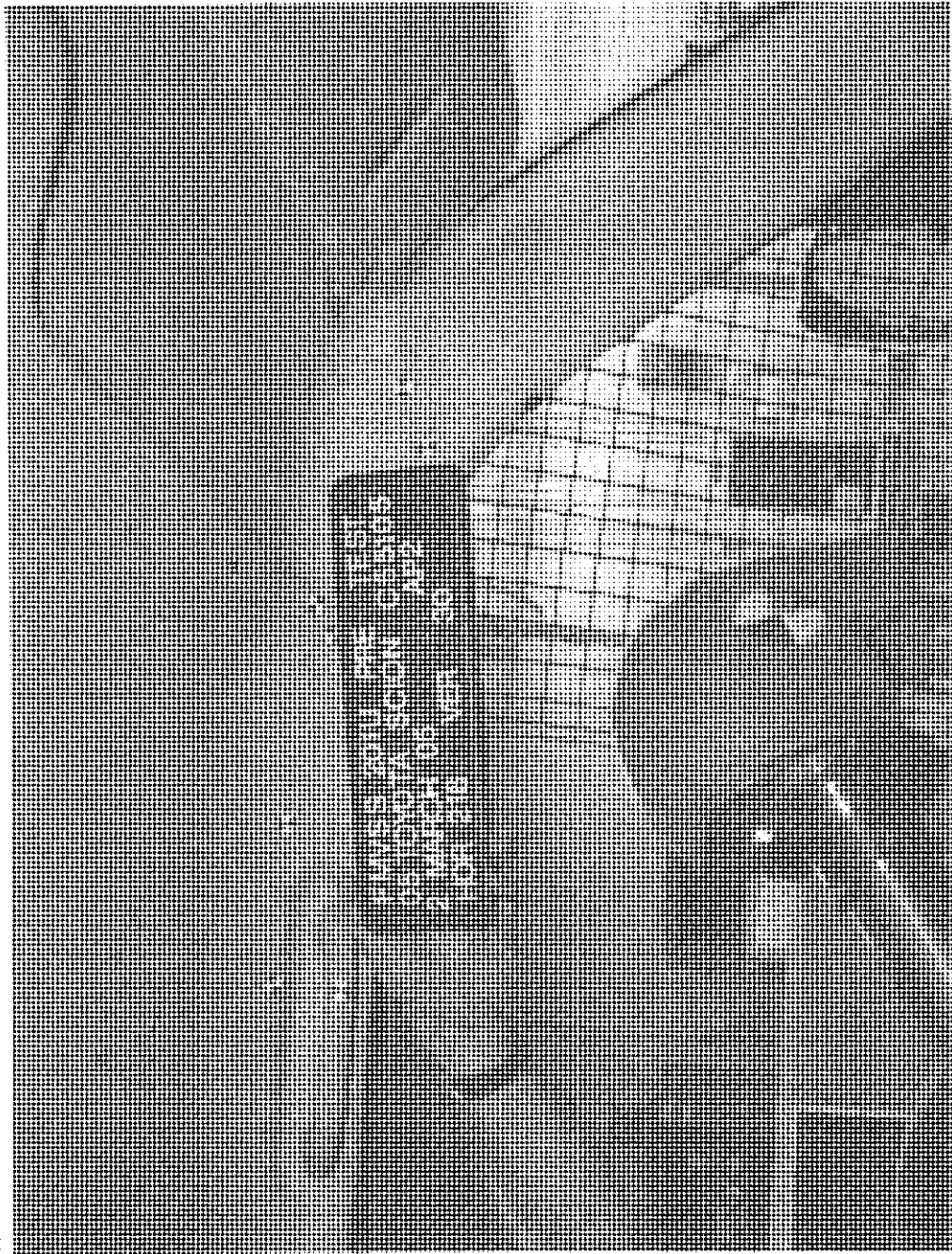
FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 23.8 [KPH] at -0.013 [s]
Min: -7.4 [KPH] at 0.050 [s]

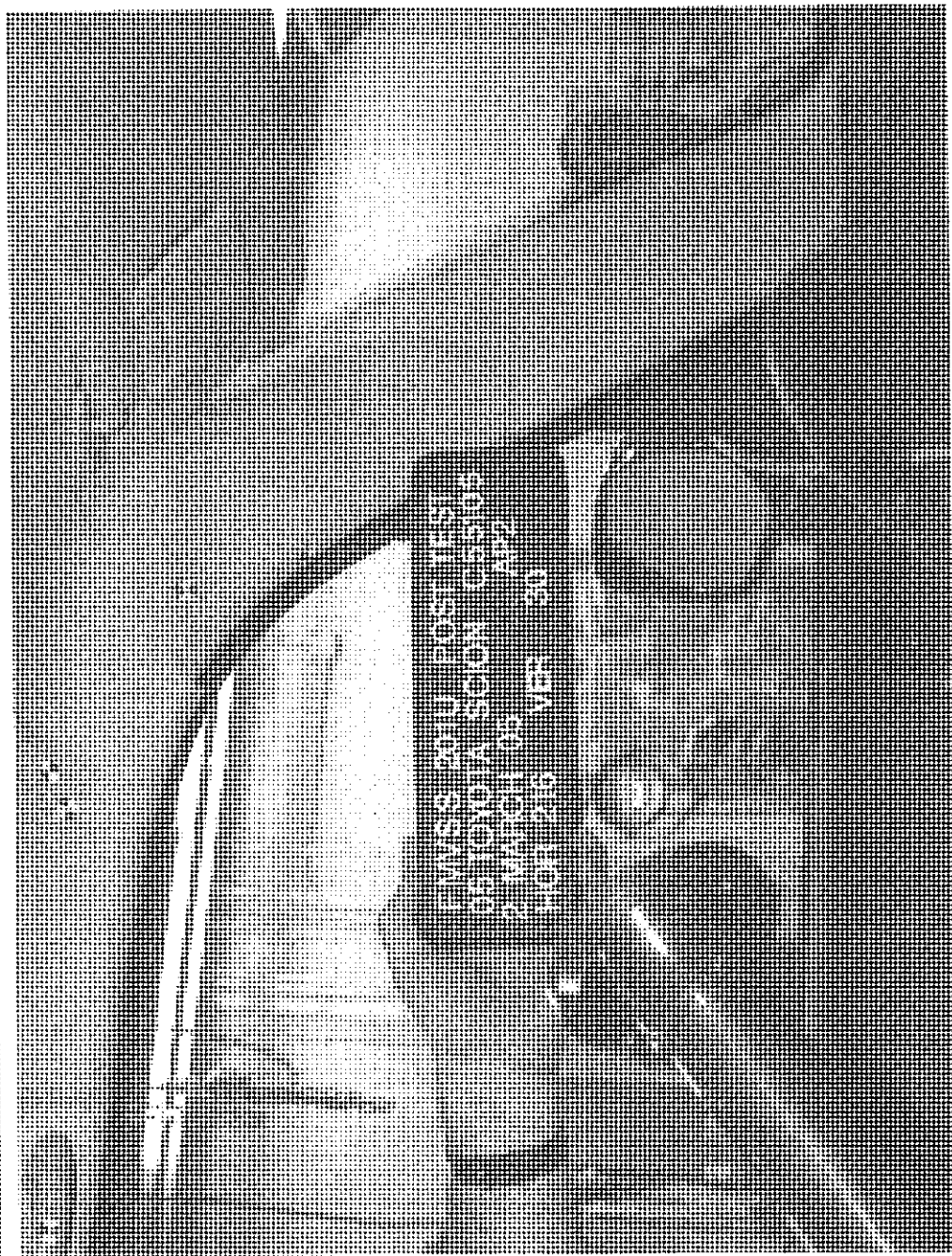
Headform Velocity



CFC_180



PRE-IMPACT AP2



FMVSS 201U POST TEST
CHICAGOIA SOON CESSIOS
2 MAR 2011 08 AP2
HOR 216 VER 50

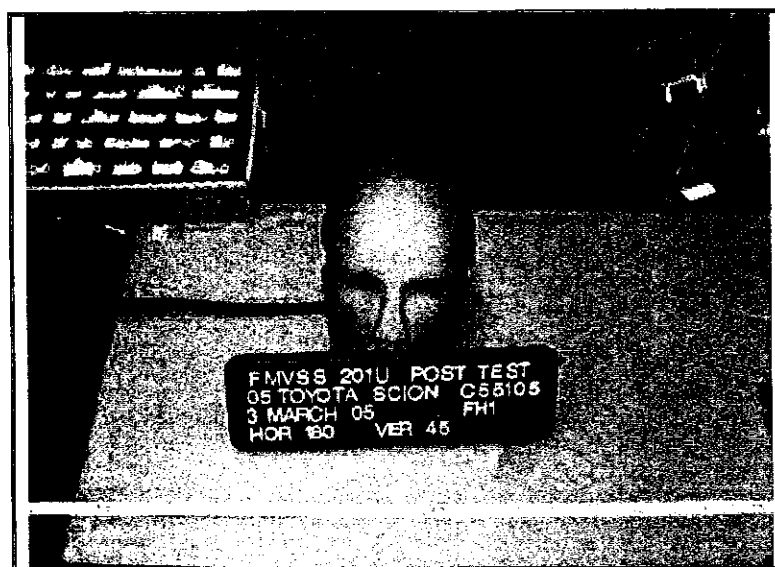
POST-IMPACT AP2

8754-FMH-03

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	09
Test Date:	03/03/05
Target Location:	Front Header
Target Code:	FH1
Horizontal Impact Angle:	180°
Vertical Impact Angle:	45°
Ambient Temperature:	23 C°
Relative Humidity:	13
Time of Impact:	8:50
Headform Number:	1255

Impact Point Description (from lower midpoint on midsagittal line)				
On Centerline	10	☐	mm right	☒ mm left
On Centerline	20		mm up	



POST-IMPACT FH1 HEADFORM

Free Motion HIC	906.2
HIC(d)	850.1
Impact Velocity (kph)	23.81
HIC T1 (msec)	2.6
HIC T2 (msec)	9.2

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - FH1

FMH Headform 1255

Location: FH1

Test Date: March 03, 2005

Work File: FH1

TEST RESULTS

Lab Temperature: 23 C

HICd: 850.1

Lab Humidity: 13 %

HIC (36ms): 906.2

Velocity at Impact: 23.81 KPH

t1: 2.6 msec

t2: 9.2 msec

Free Flight Distance: 210.90 mm

Duration: 6.6 msec

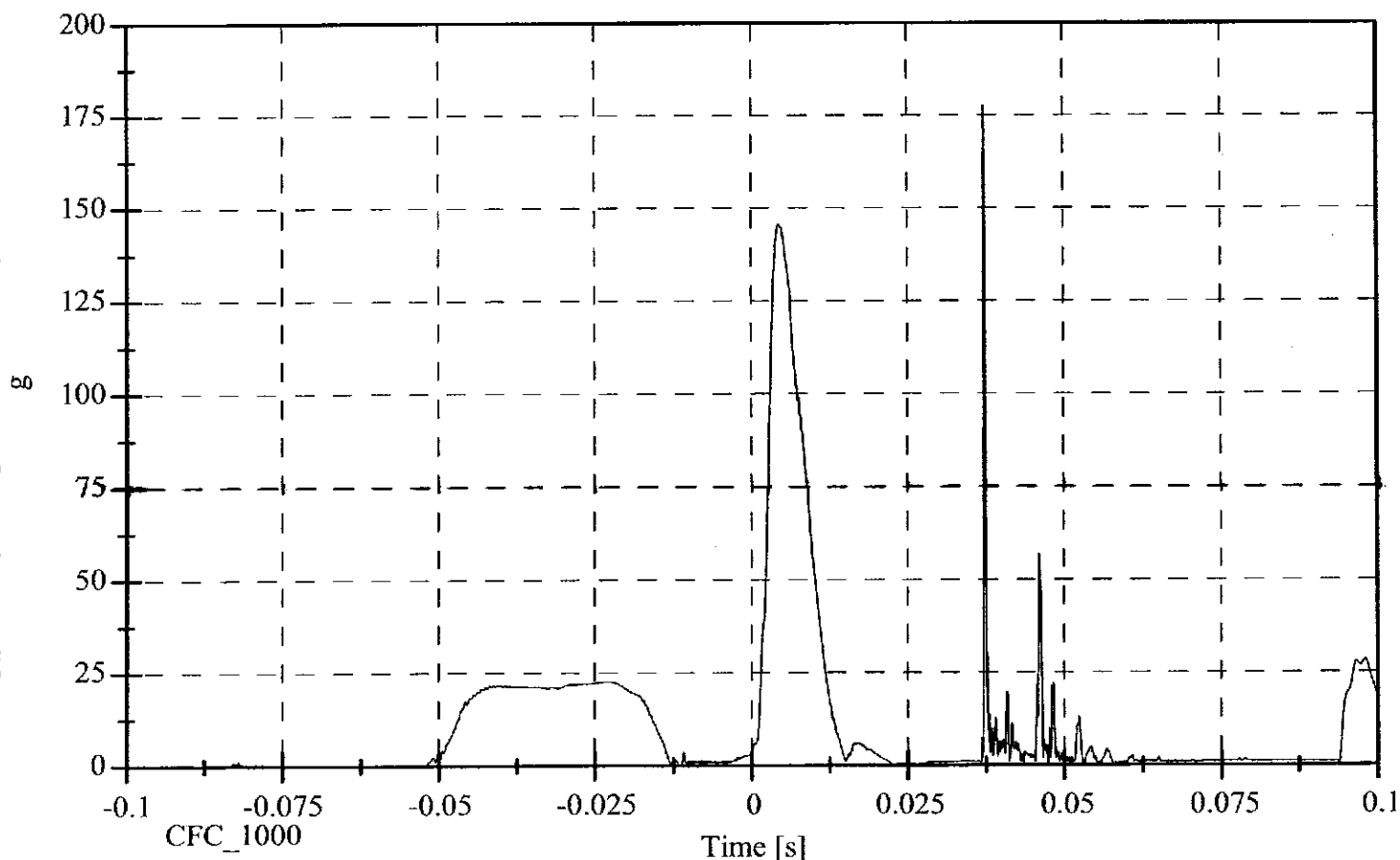
Maximum: 145.5 g

Average Acceleration: 10.3 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 145.5 [g] at 0.004 [s]

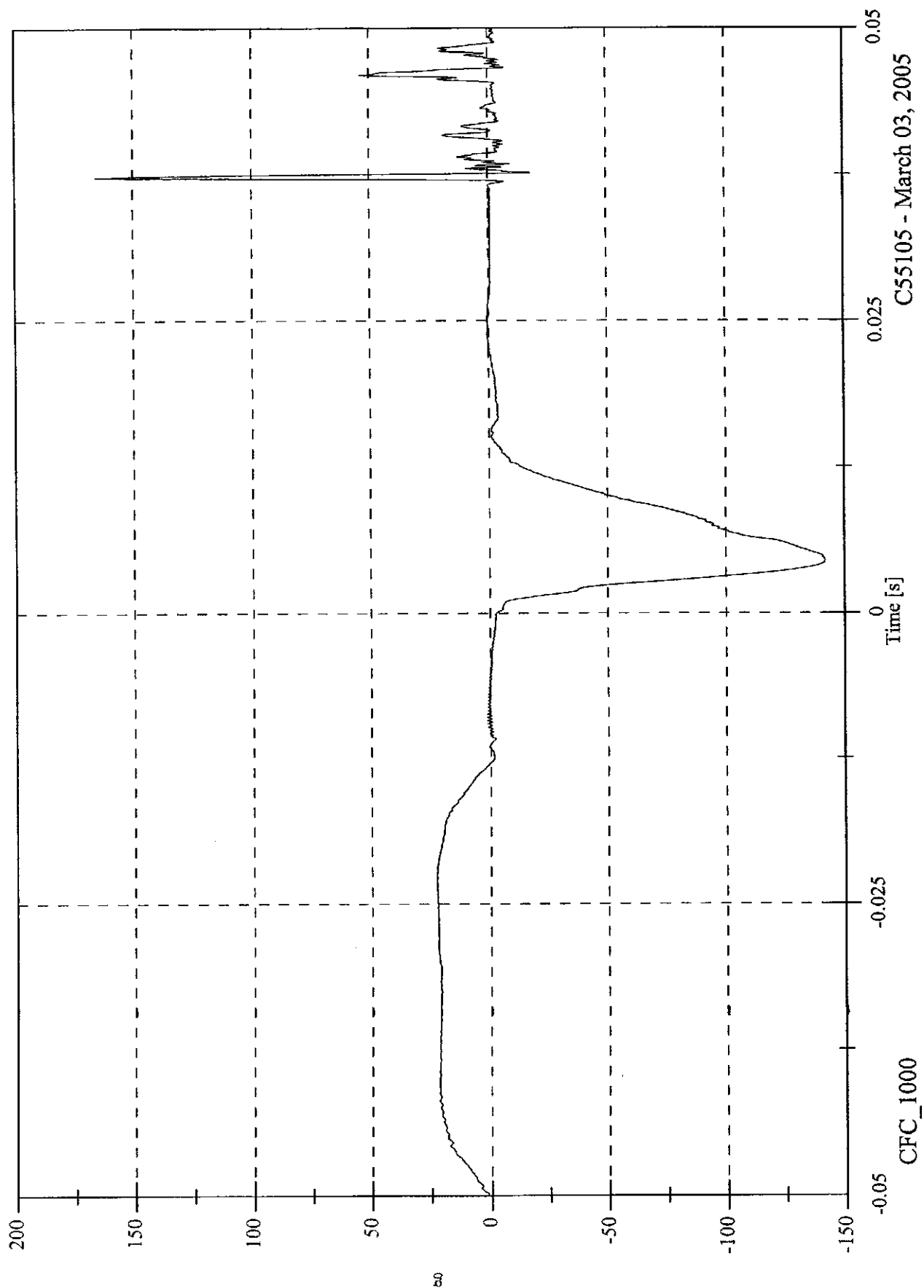
Min: 0.0 [g] at -0.067 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 165.6 [g] at 0.037 [s]
Min: -141.8 [g] at 0.004 [s]

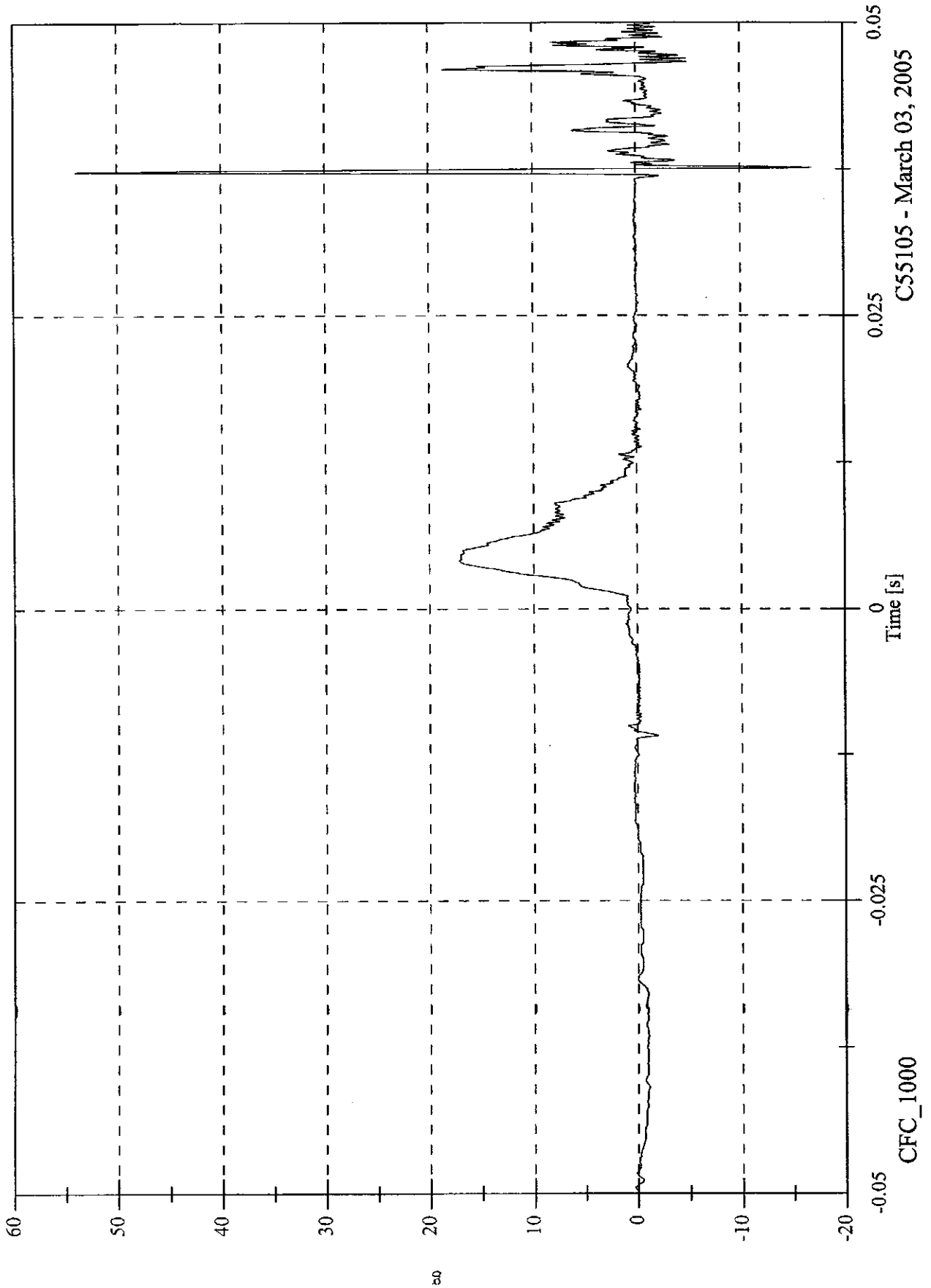


C55105 - March 03, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

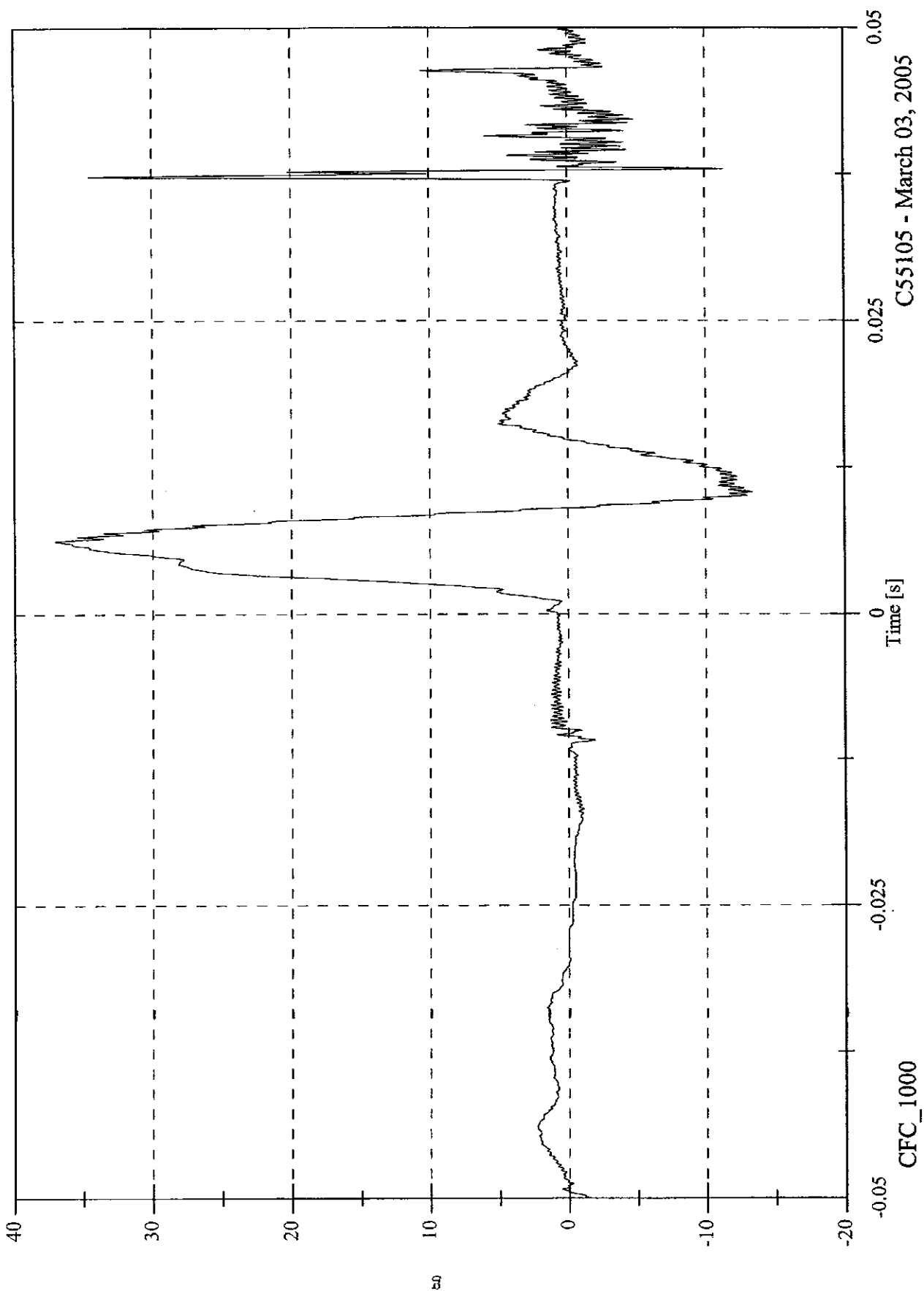
Max: 54.0 [g] at 0.037 [s]
Min: -16.9 [g] at 0.038 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

Max: 37.0 [g] at 0.006 [s]
Min: -13.4 [g] at 0.010 [s]

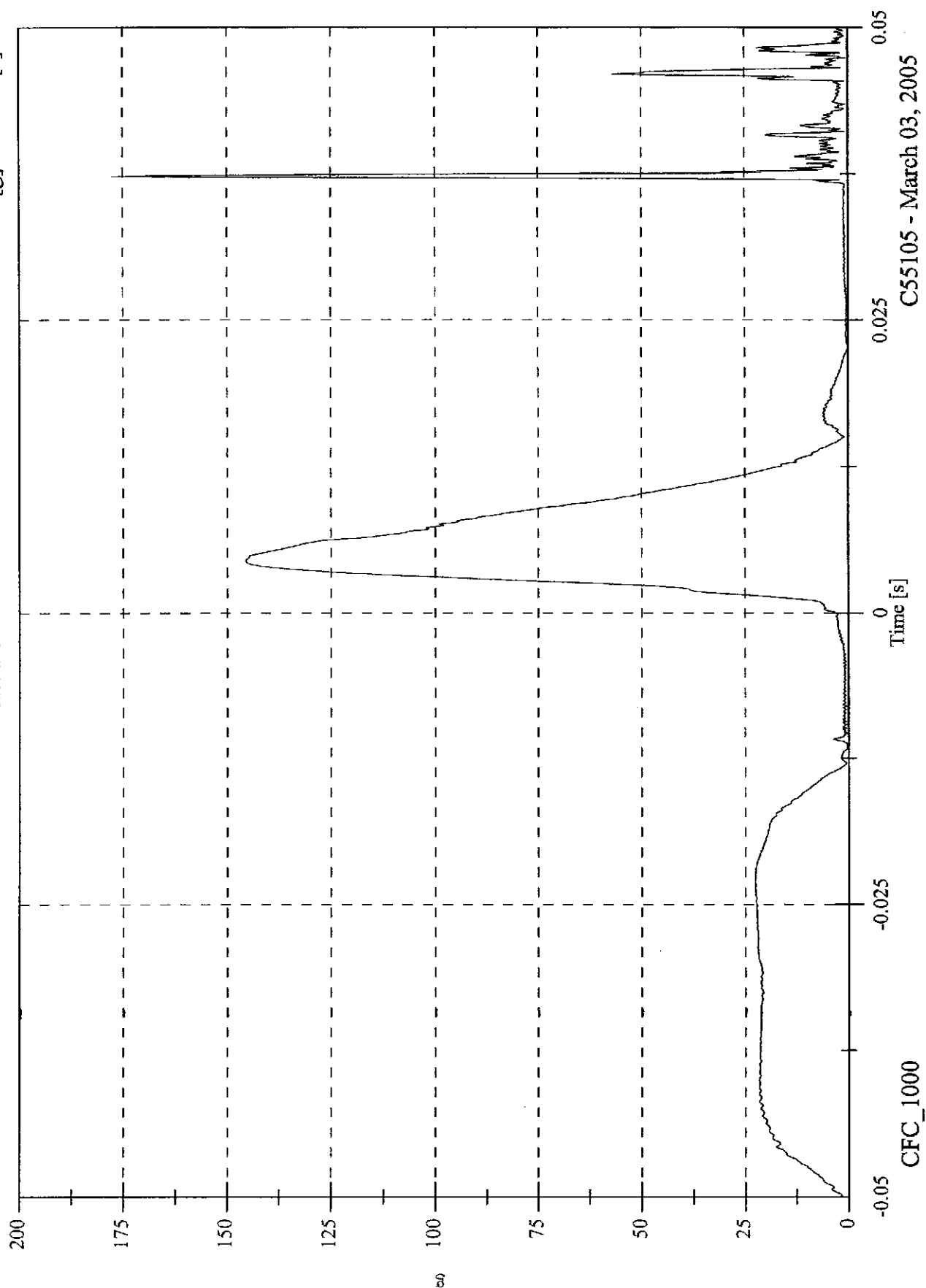


C55105 - March 03, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

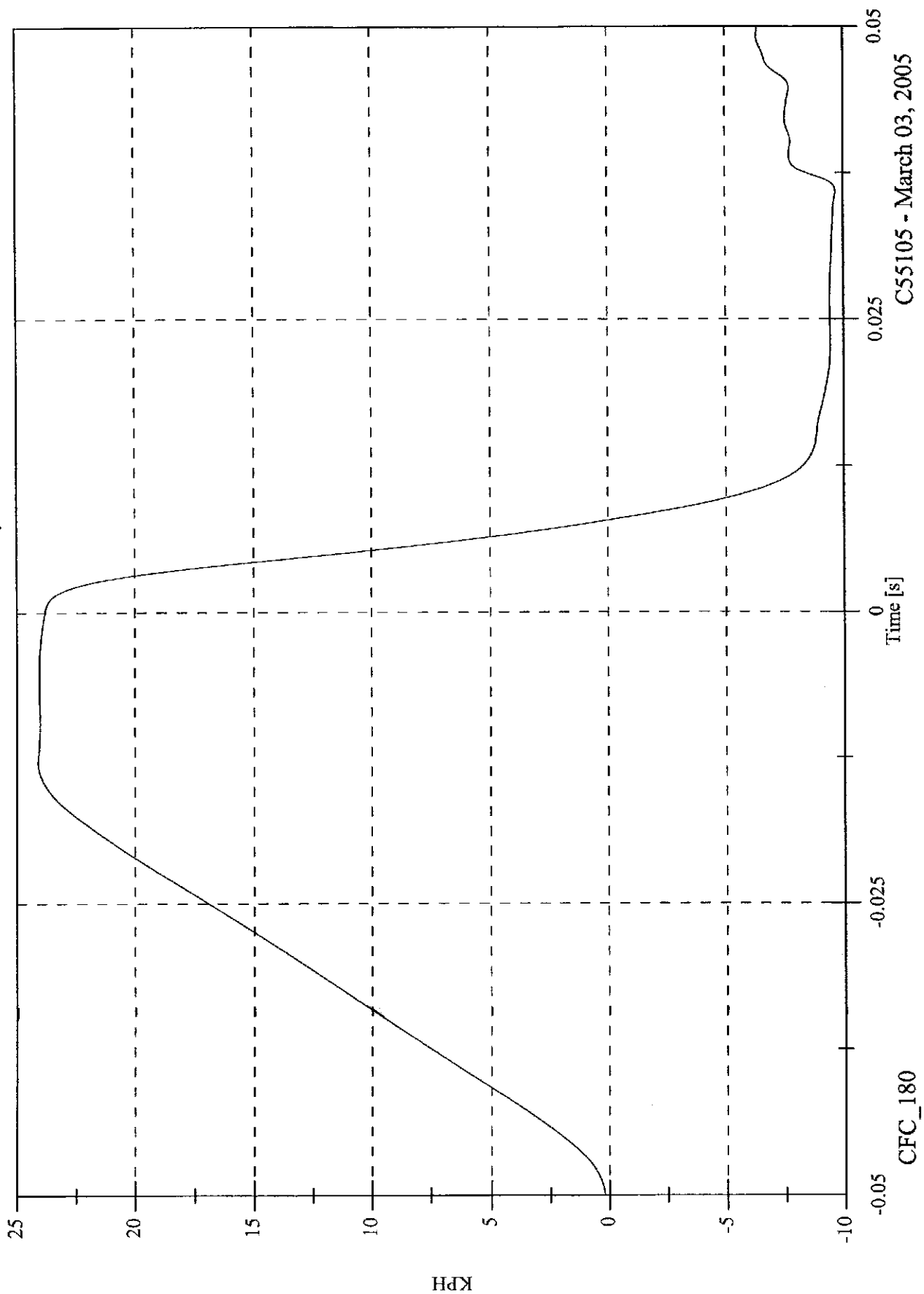
Max: 177.5 [g] at 0.037 [s]
Min: 0.1 [g] at 0.023 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 24.1 [KPH] at -0.013 [s]
Min: -9.7 [KPH] at 0.036 [s]

Headform Velocity





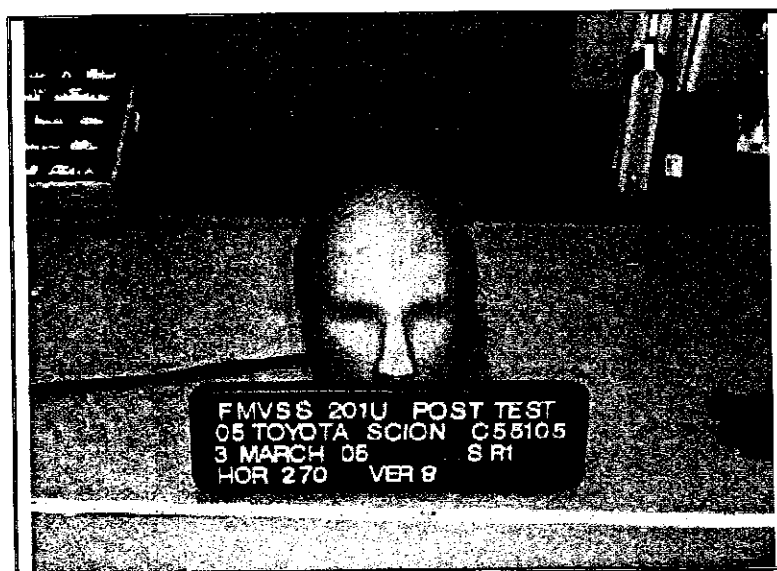
FW33 2010 POST TEST
011007A 3010N 01510E
3 000000 00 0000 00
H01 200 VFR 45

POST-IMPACT FHE

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	10
Test Date:	03/03/05
Target Location:	Side Rail
Target Code:	SR1
Horizontal Impact Angle:	270°
Vertical Impact Angle:	8°
Ambient Temperature:	23 C°
Relative Humidity:	13
Time of Impact:	9:30
Headform Number:	0805

Impact Point Description (from lower midpoint on midsagittal line)				
On Centerline	25	☐	mm right	☒ mm left
On Centerline	25		mm up	



POST-IMPACT SRI HEADFORM

Free Motion HIC	275.7
HIC(d)	374.4
Impact Velocity (kph)	23.75
HIC T1 (msec)	9.9
HIC T2 (msec)	17.9

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - SR1

FMH Headform 805

Location: SR1

Test Date: March 03, 2005

Work File: SR1

TEST RESULTS

Lab Temperature: 23 C

HICd: 374.4

Lab Humidity: 13 %

HIC (36ms): 275.7

Velocity at Impact: 23.75 KPH

t1: 9.9 msec

t2: 17.9 msec

Free Flight Distance: 159.71 mm

Duration: 7.9 msec

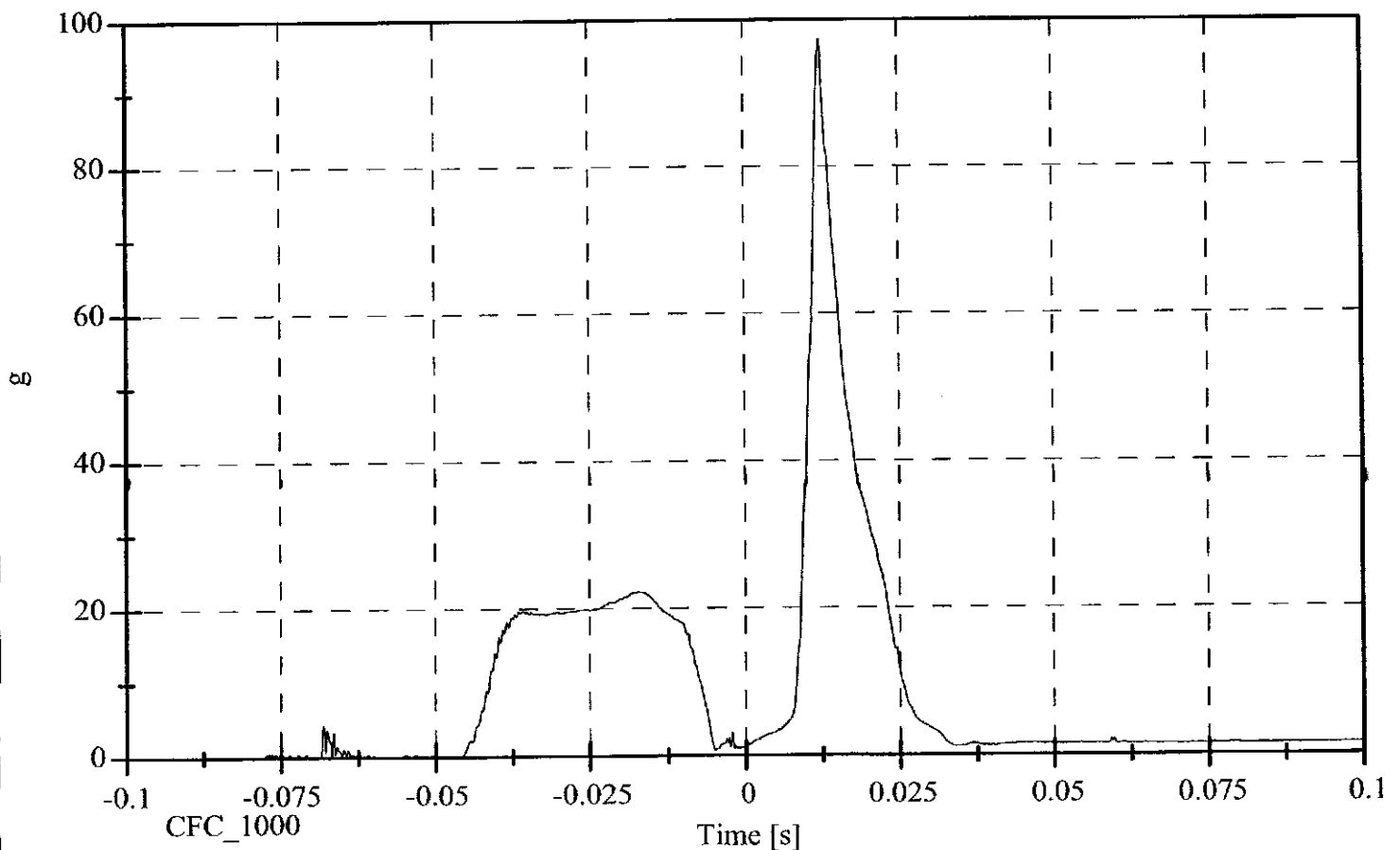
Maximum: 97.3 g

Average Acceleration: 8.4 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 97.3 [g] at 0.012 [s]

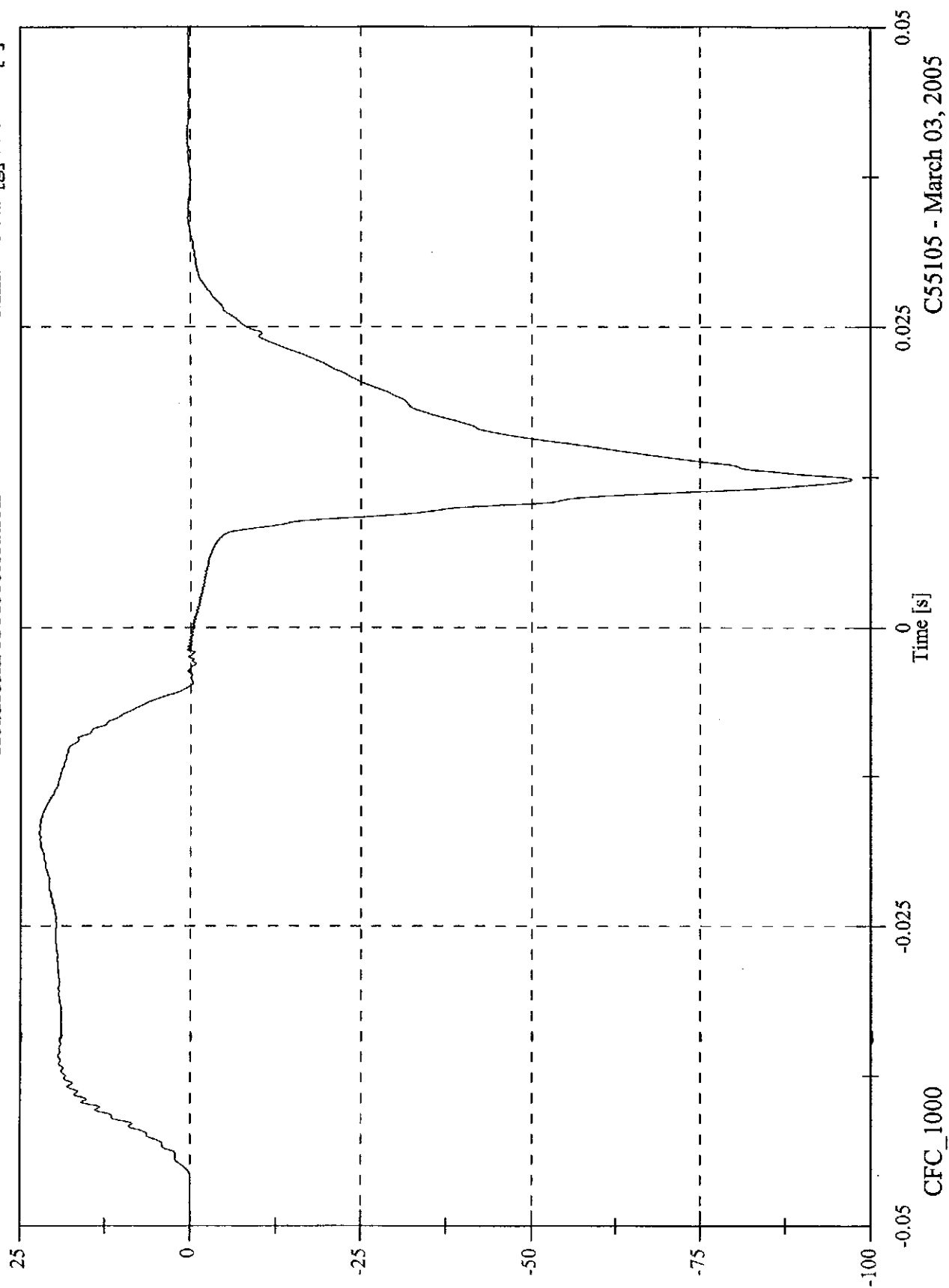
Min: 0.0 [g] at -0.050 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 22.3 [g] at -0.017 [s]
Min: -97.2 [g] at 0.012 [s]

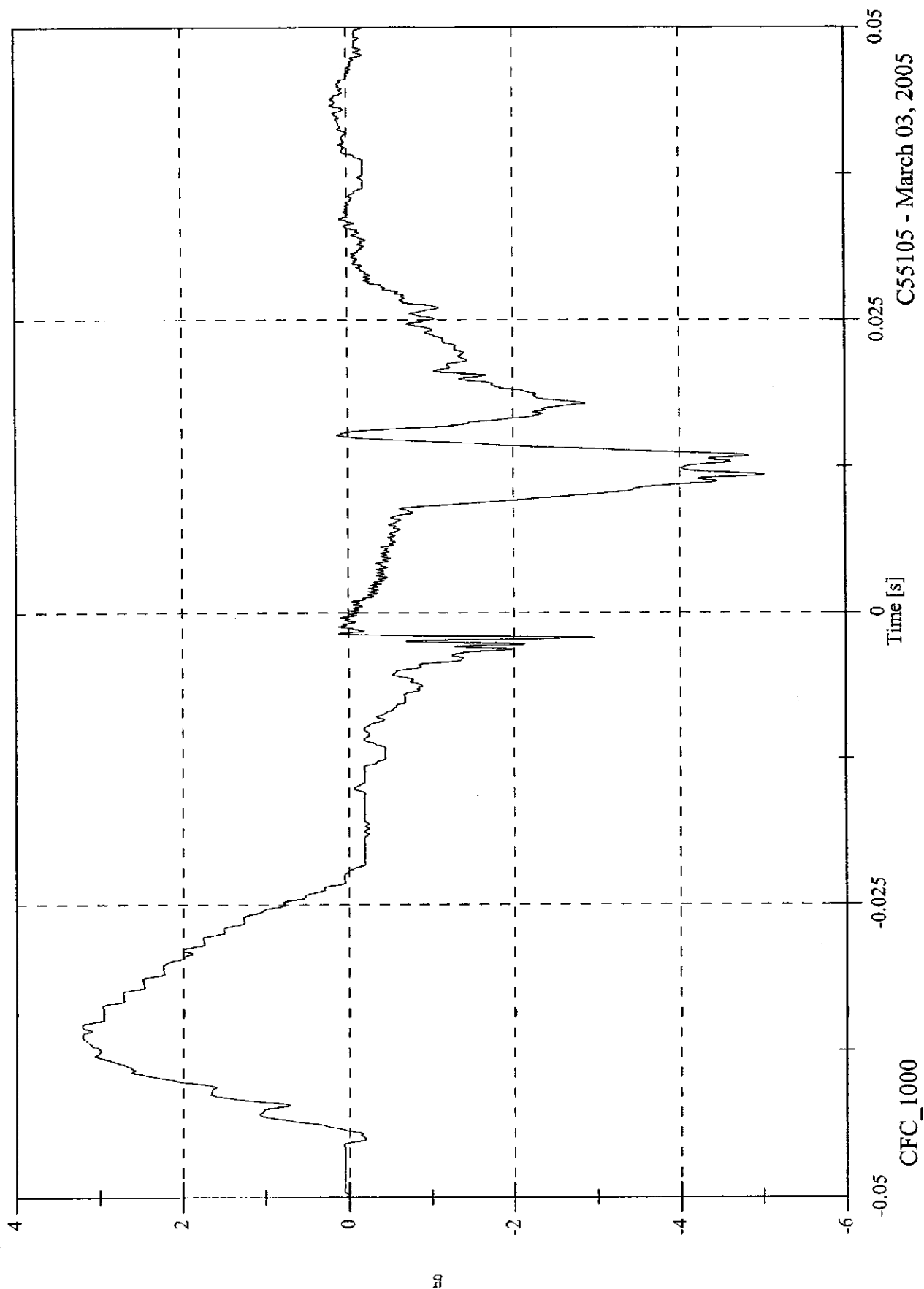


C55105 - March 03, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

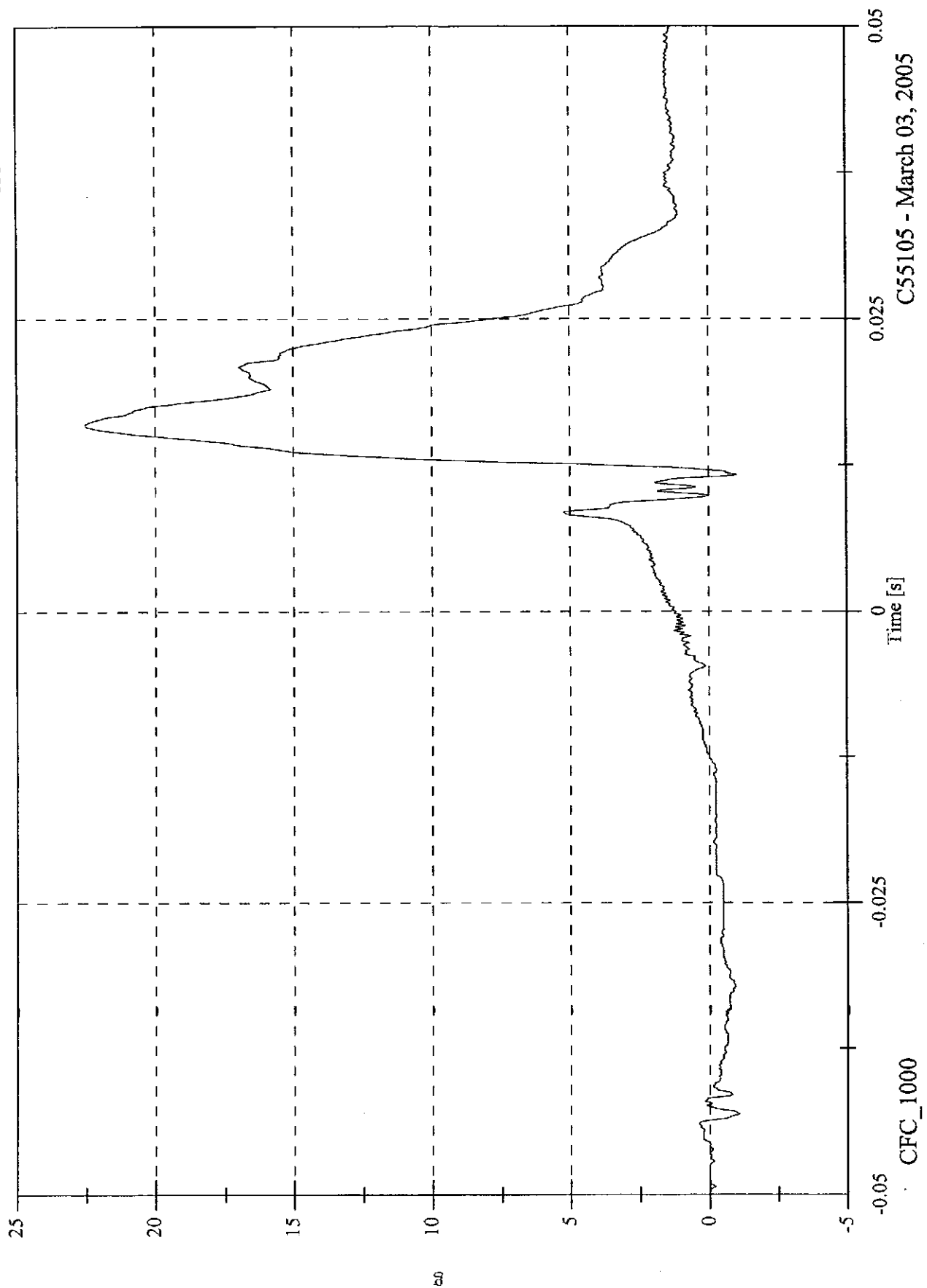
Max: 3.2 [g] at -0.035 [s]
Min: -5.0 [g] at 0.012 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

Max: 22.5 [g] at 0.016 [s]
Min: -1.1 [g] at -0.043 [s]

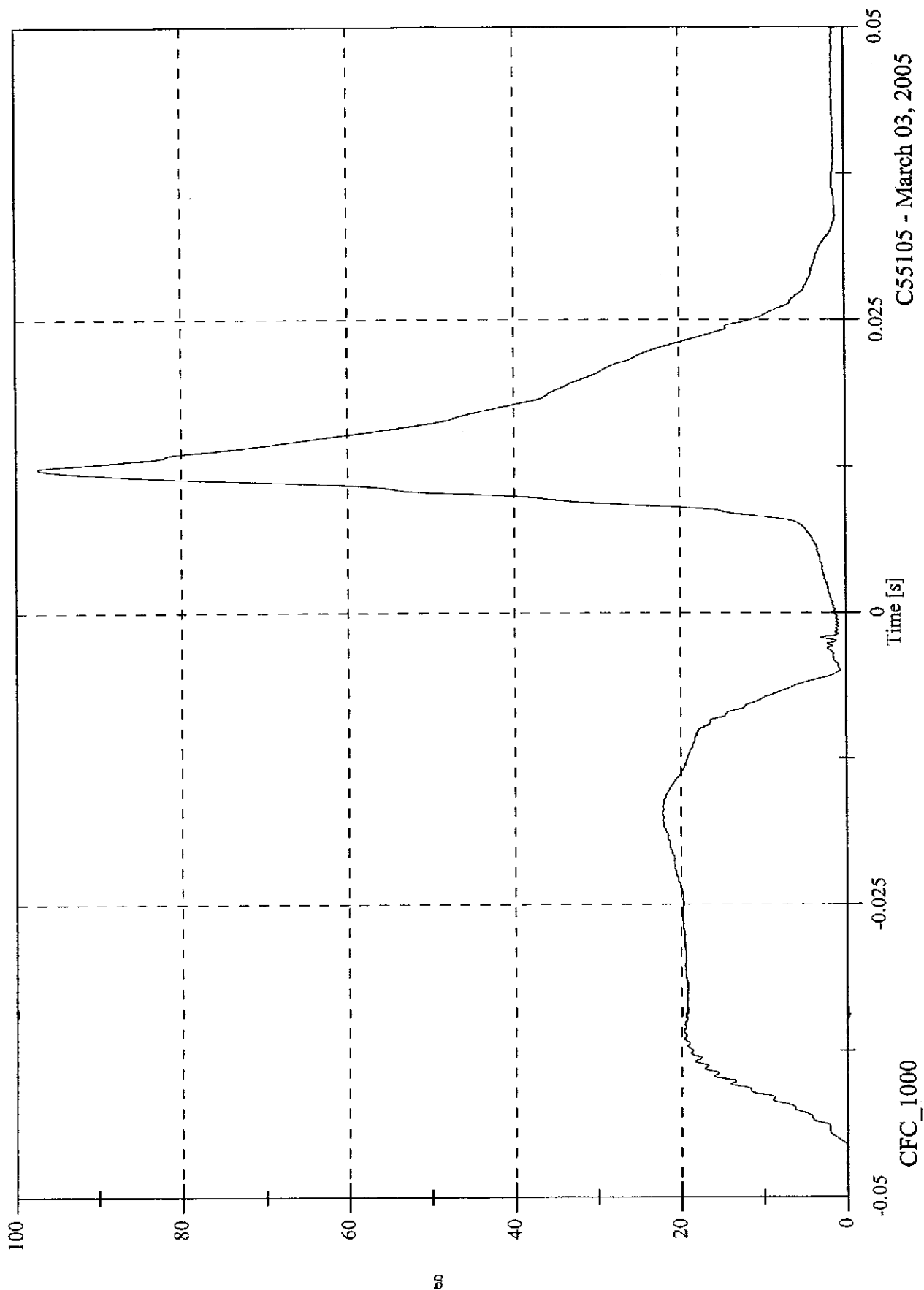


C55105 - March 03, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

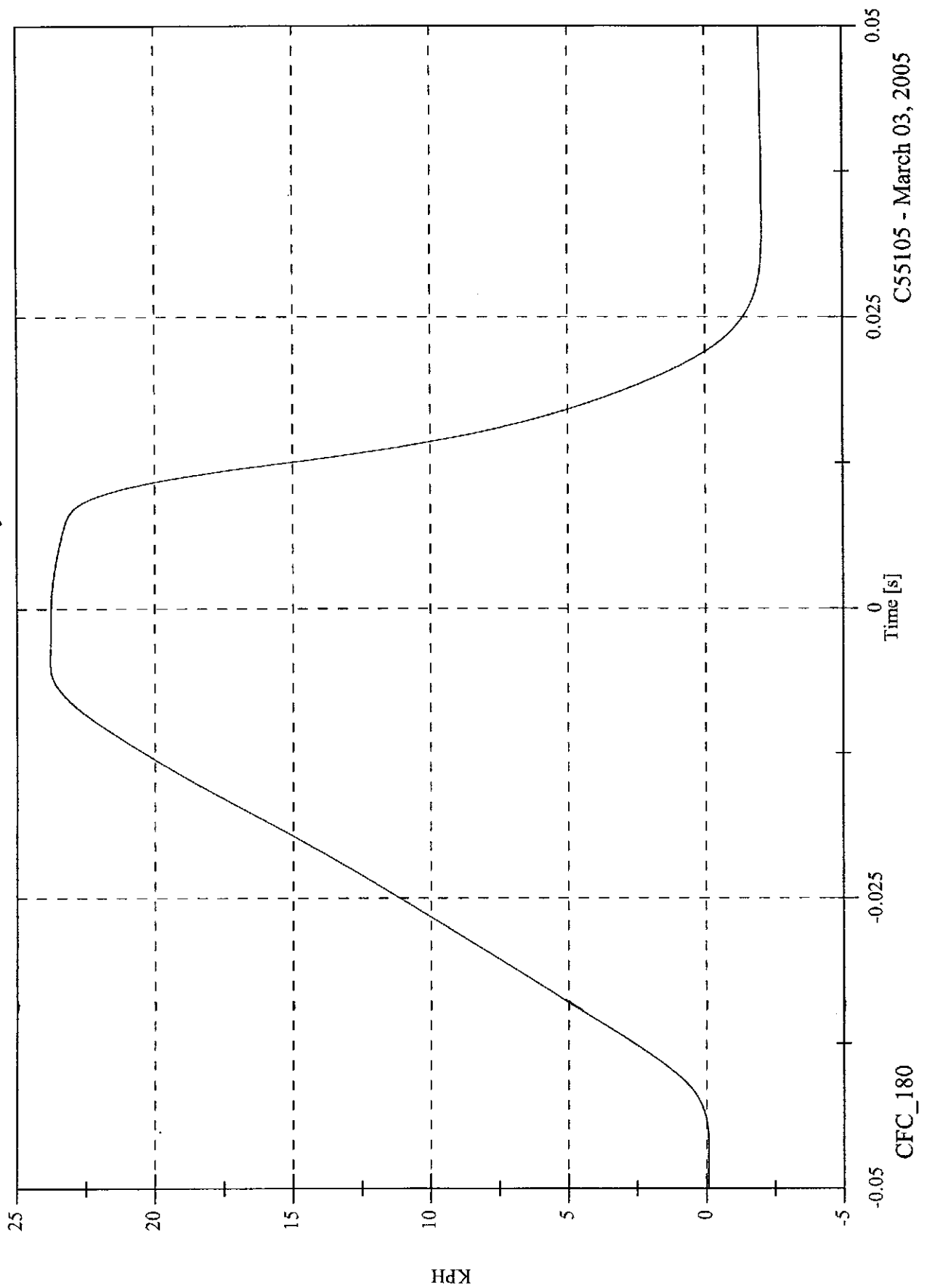
Max: 97.3 [g] at 0.012 [s]
Min: 0.0 [g] at -0.050 [s]



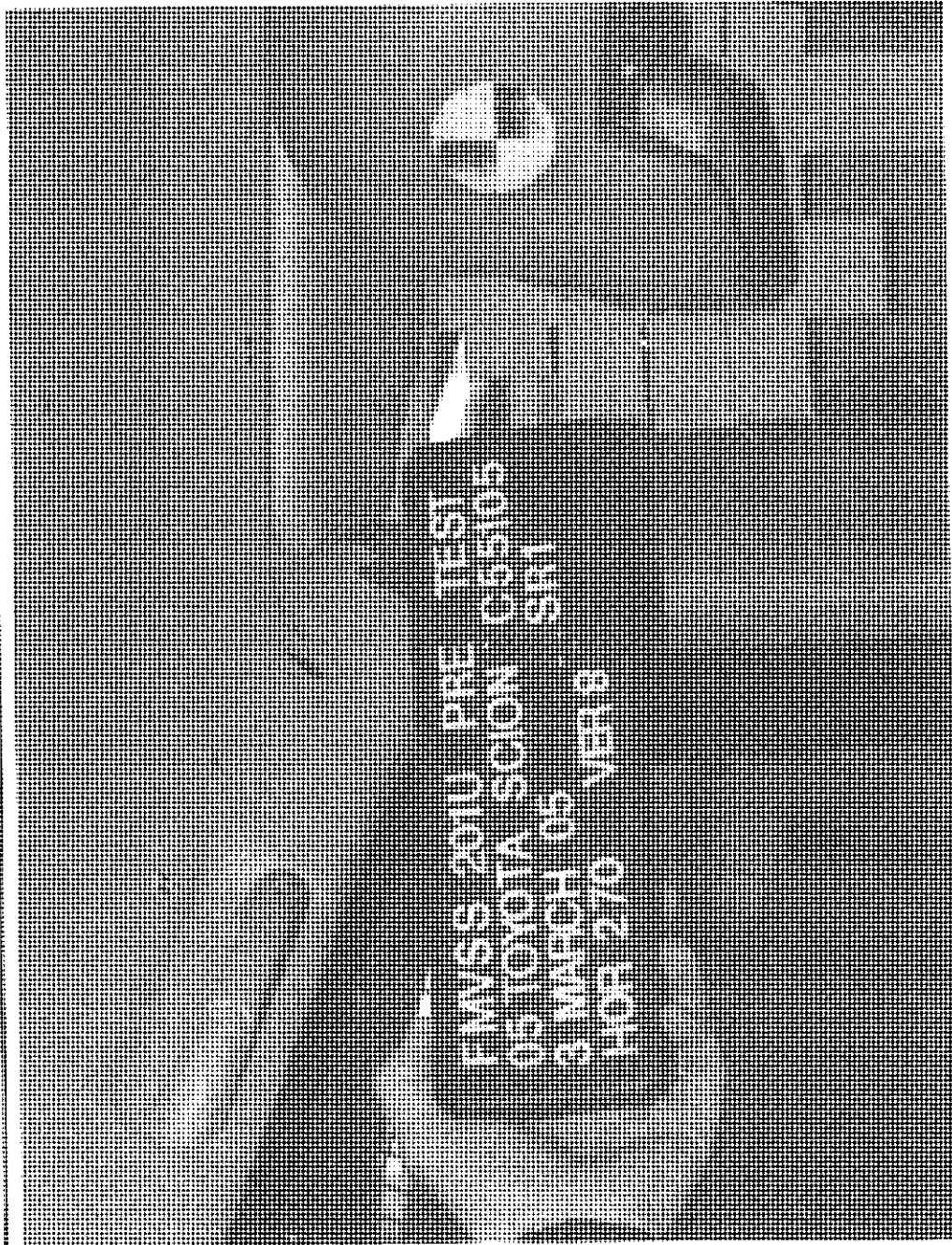
FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 23.8 [KPH] at -0.005 [s]
Min: -2.1 [KPH] at 0.033 [s]

Headform Velocity



CFC_180



FAVVS 5 201U PRE TEST
05 TOYOTA SCION C65105
3 MARCH 05 SRI
HOR 270 VER 8

PRE-IMPACT SRI

8756-FMH-03

PLATE NO. 100-270
DATE OF PLATING 8 SEP 65
BY JAMES S. MOORE
FOR THE U.S. AIR FORCE

150

8754-3741-05

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	11
Test Date:	03/03/05
Target Location:	B-Pillar
Target Code:	BP3
Horizontal Impact Angle:	270°
Vertical Impact Angle:	10°
Ambient Temperature:	24 C°
Relative Humidity:	14
Time of Impact:	13:00
Headform Number:	0642

Impact Point Description (from lower midpoint on midsagittal line)				
On Centerline	10	☐	mm right	☒ mm left
On Centerline	0		mm up	



POST-IMPACT BP3 HEADFORM

Free Motion HIC	517.5
HIC(d)	556.9
Impact Velocity (kph)	23.65
HIC T1 (msec)	3.5
HIC T2 (msec)	13.1

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - BP3

FMH Headform 0642

Location: BP3

Test Date: March 03, 2005

Work File: BP3

TEST RESULTS

Lab Temperature: 24 C

HICd: 556.9

Lab Humidity: 14 %

HIC (36ms): 517.5

Velocity at Impact: 23.65 KPH

t1: 3.5 msec

t2: 13.1 msec

Free Flight Distance: 214.11 mm

Duration: 9.6 msec

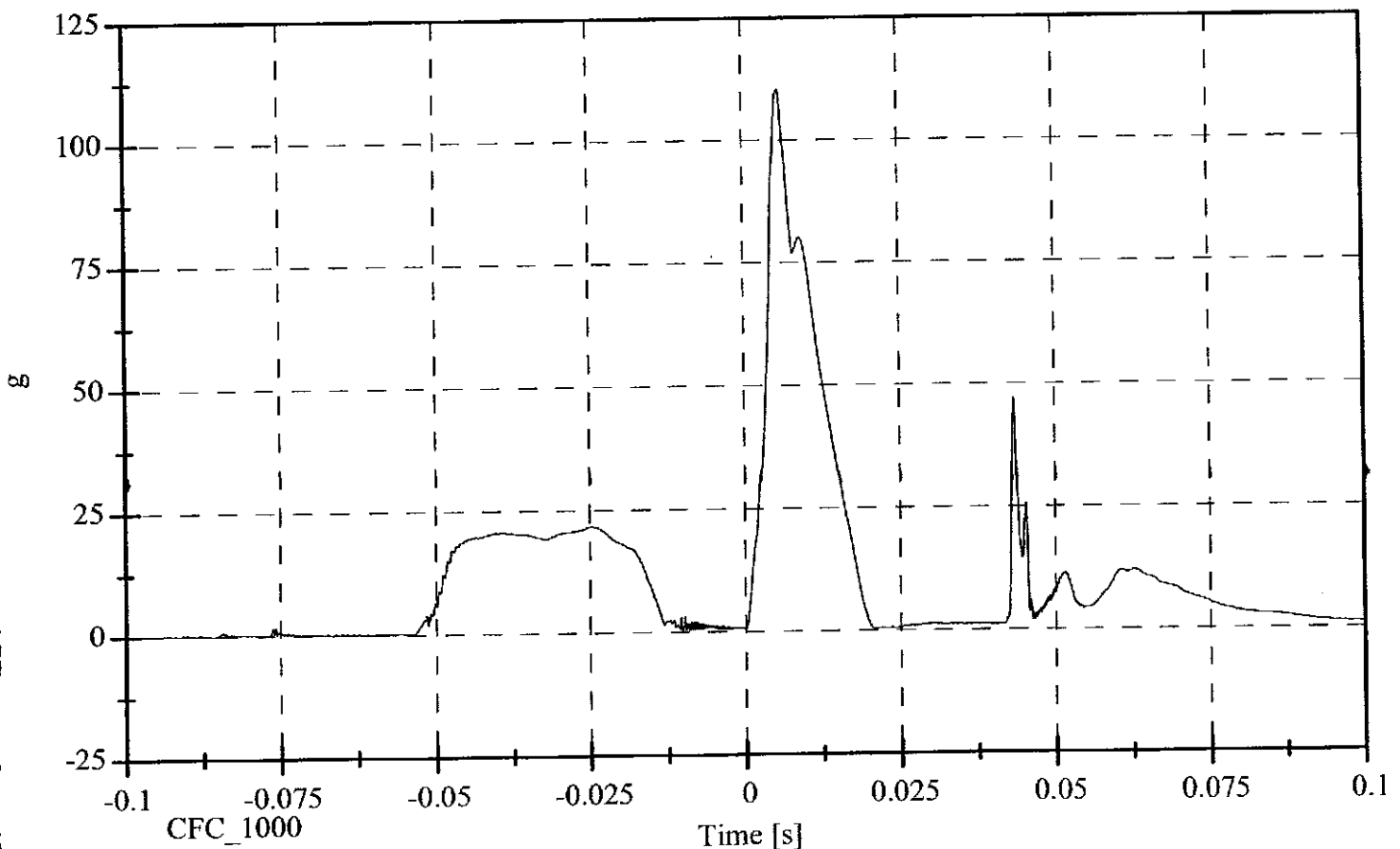
Maximum: 110.3 g

Average Acceleration: 10.4 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 110.3 [g] at 0.006 [s]

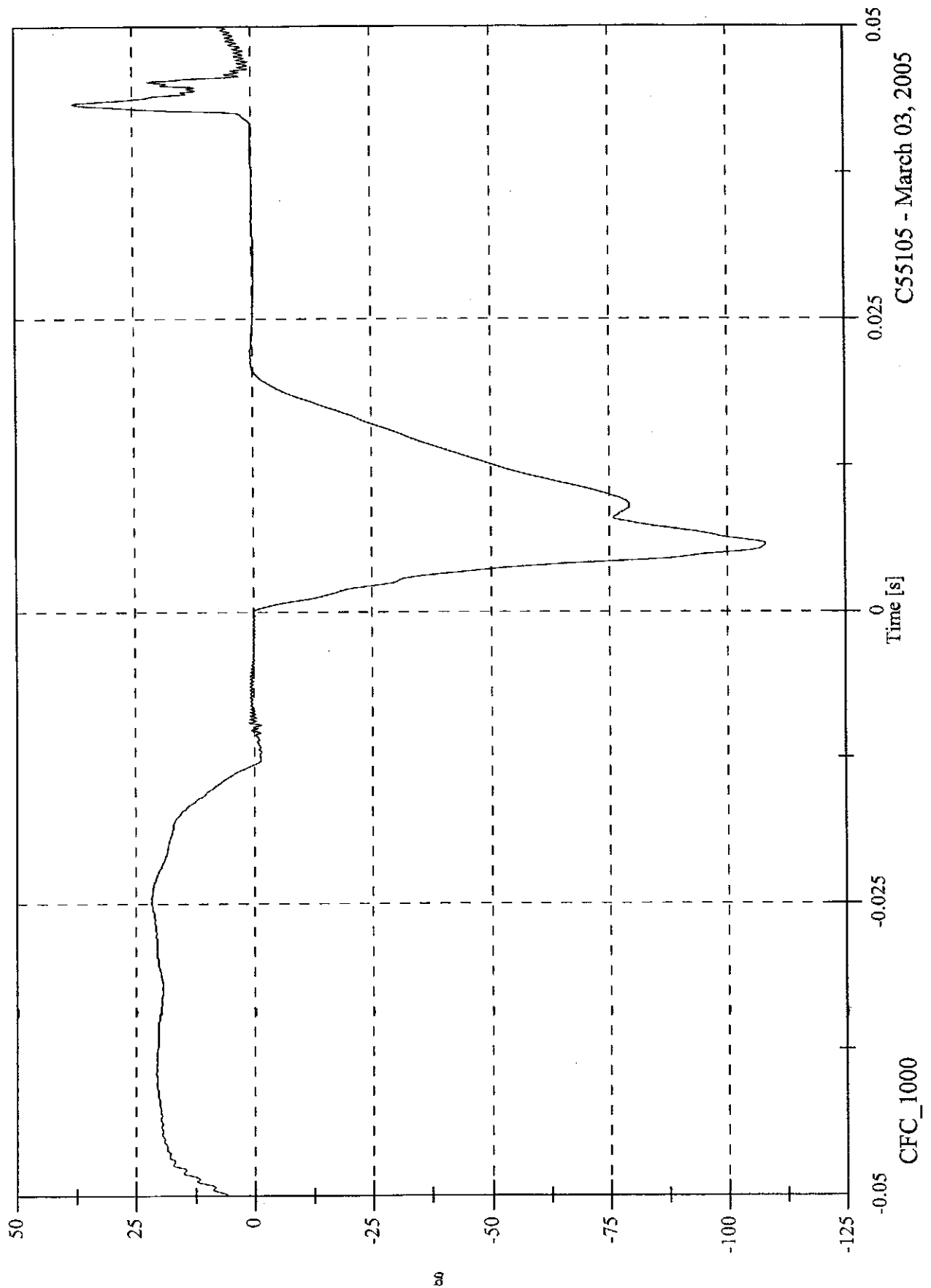
Min: -0.0 [g] at -0.099 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

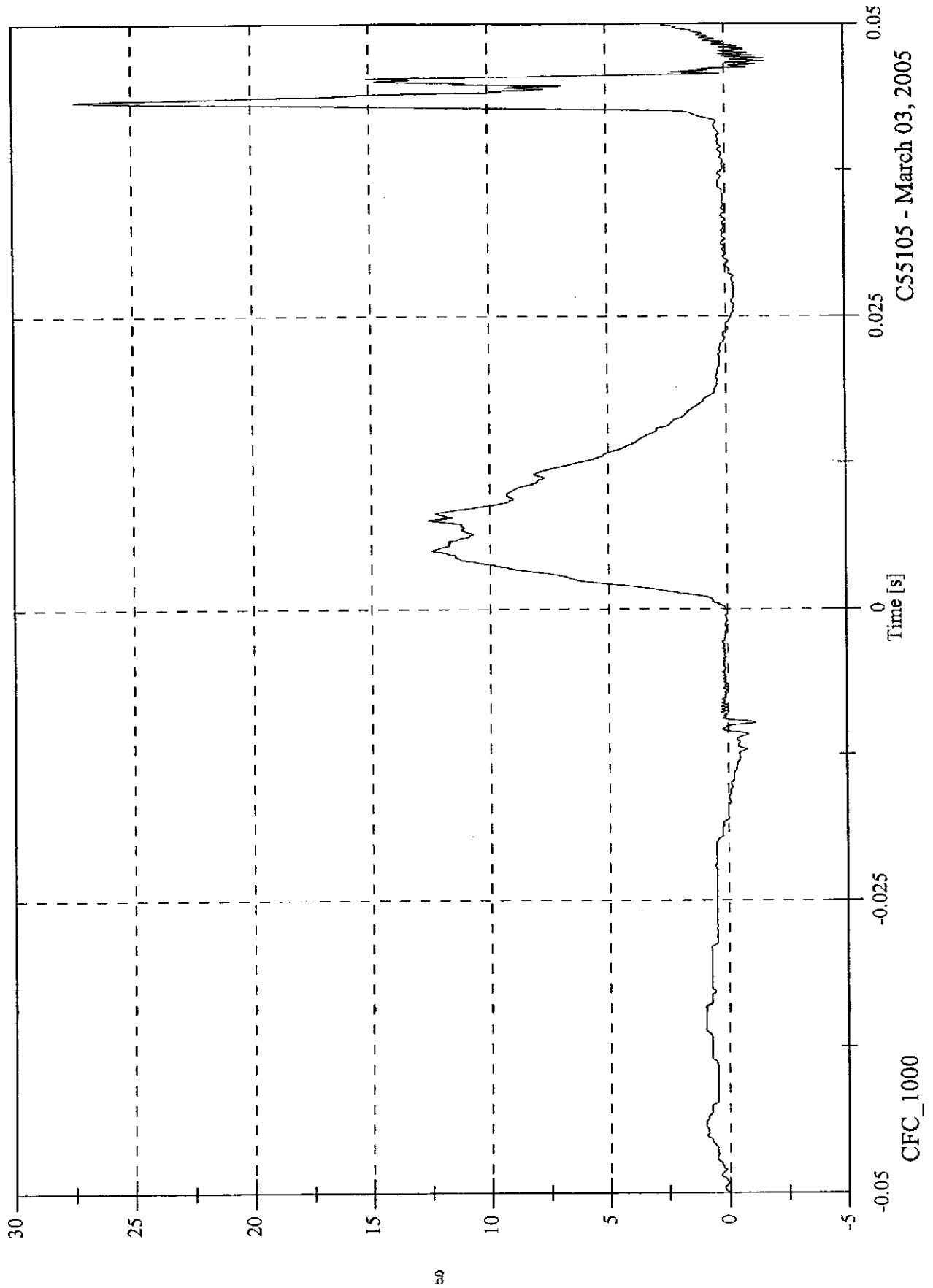
Max: 37.6 [g] at 0.043 [s]
Min: -108.0 [g] at 0.006 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

Max: 27.4 [g] at 0.043 [s]
Min: -1.7 [g] at 0.047 [s]

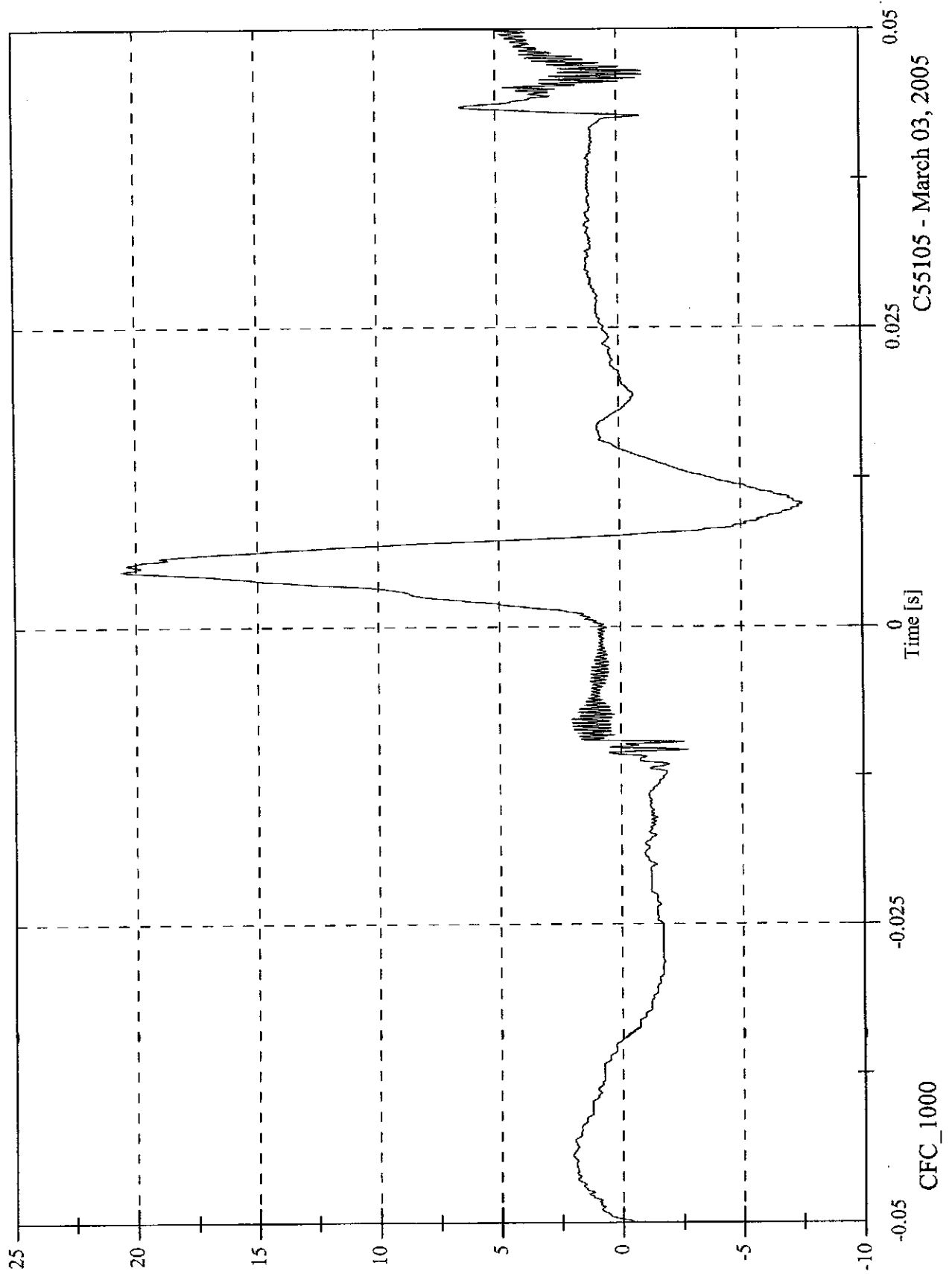


C55105 - March 03, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

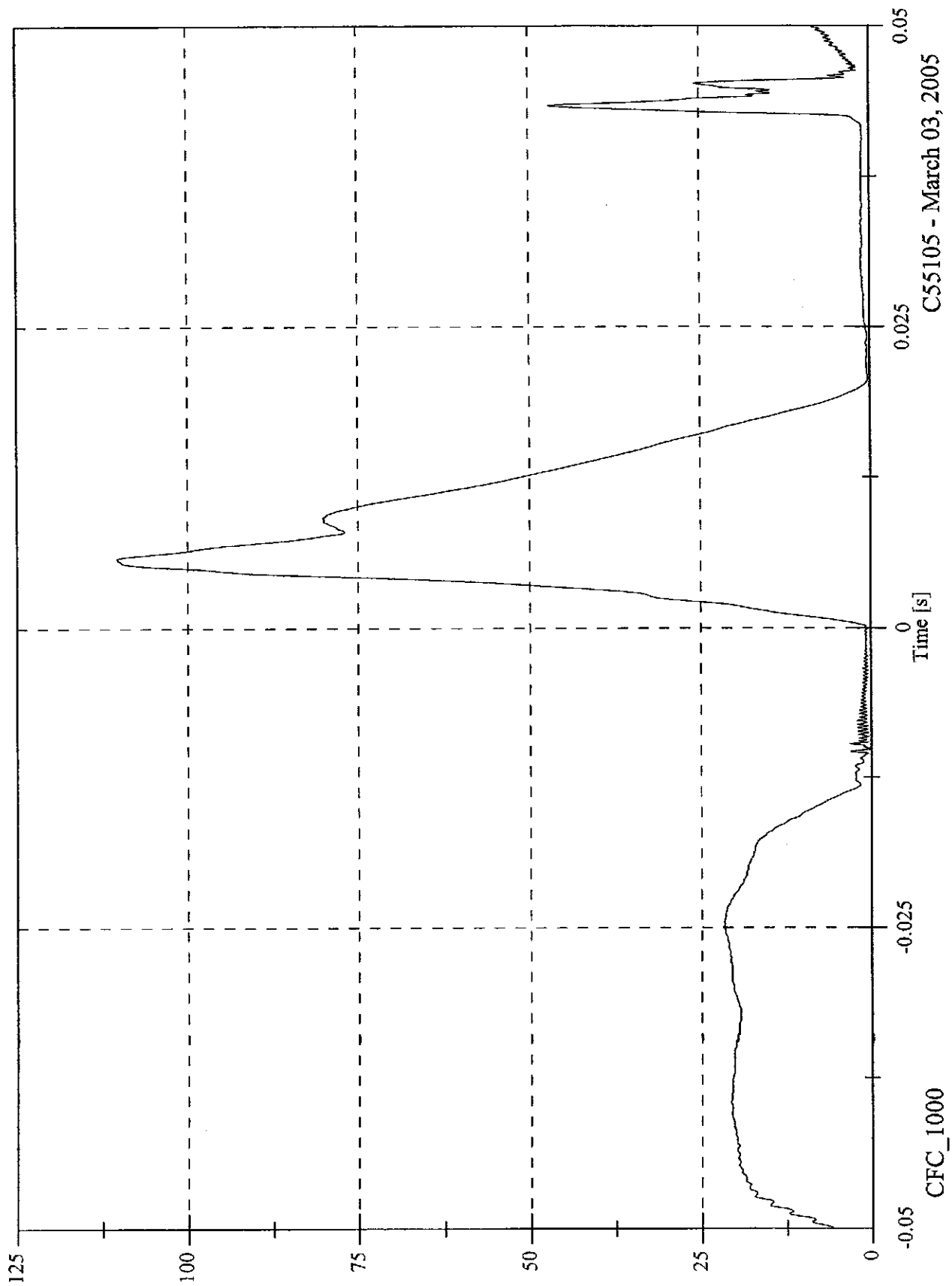
Max: 20.6 [g] at 0.005 [s]
Min: -7.6 [g] at 0.010 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

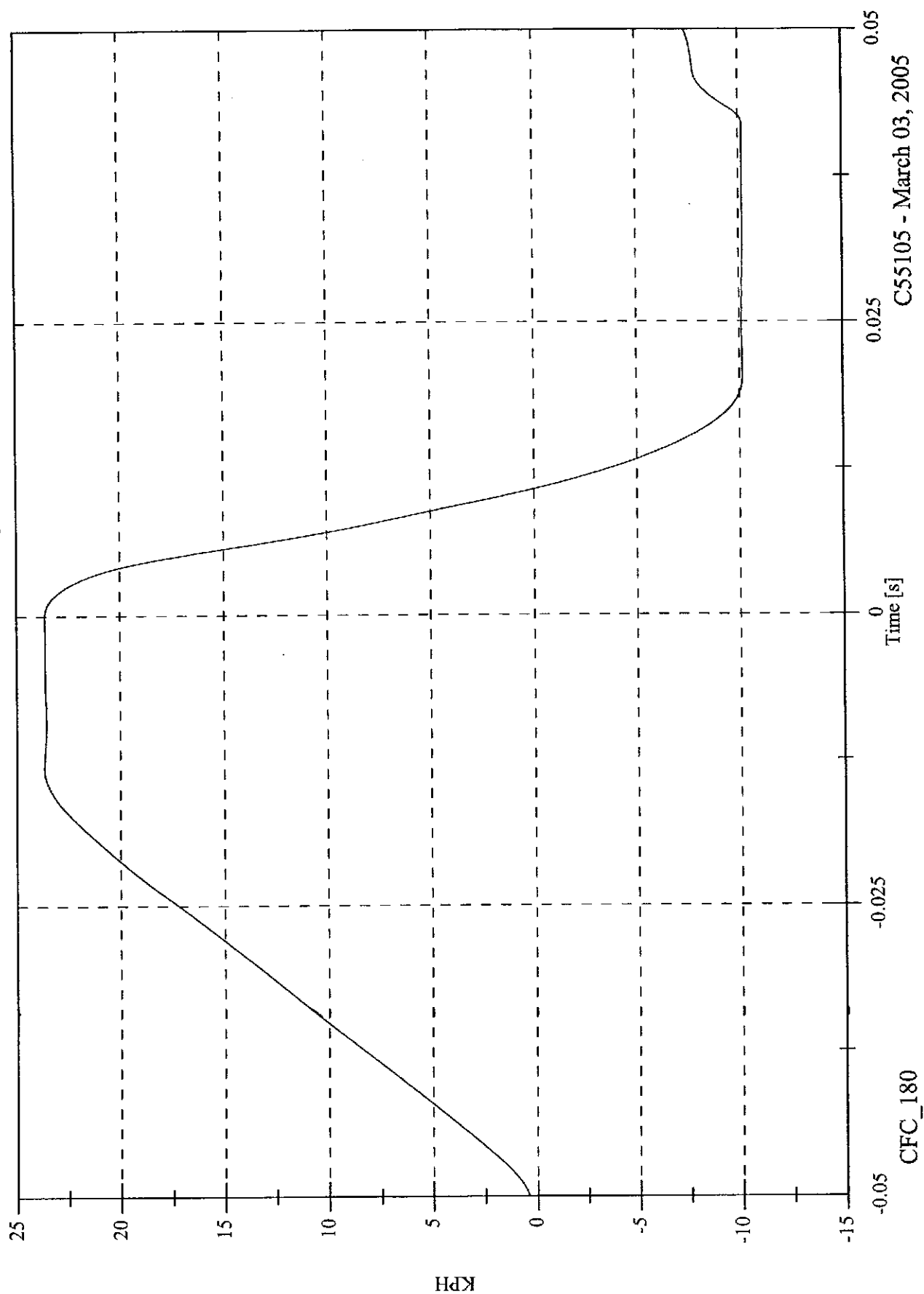
Max: 110.3 [g] at 0.006 [s]
Min: 0.2 [g] at -0.010 [s]

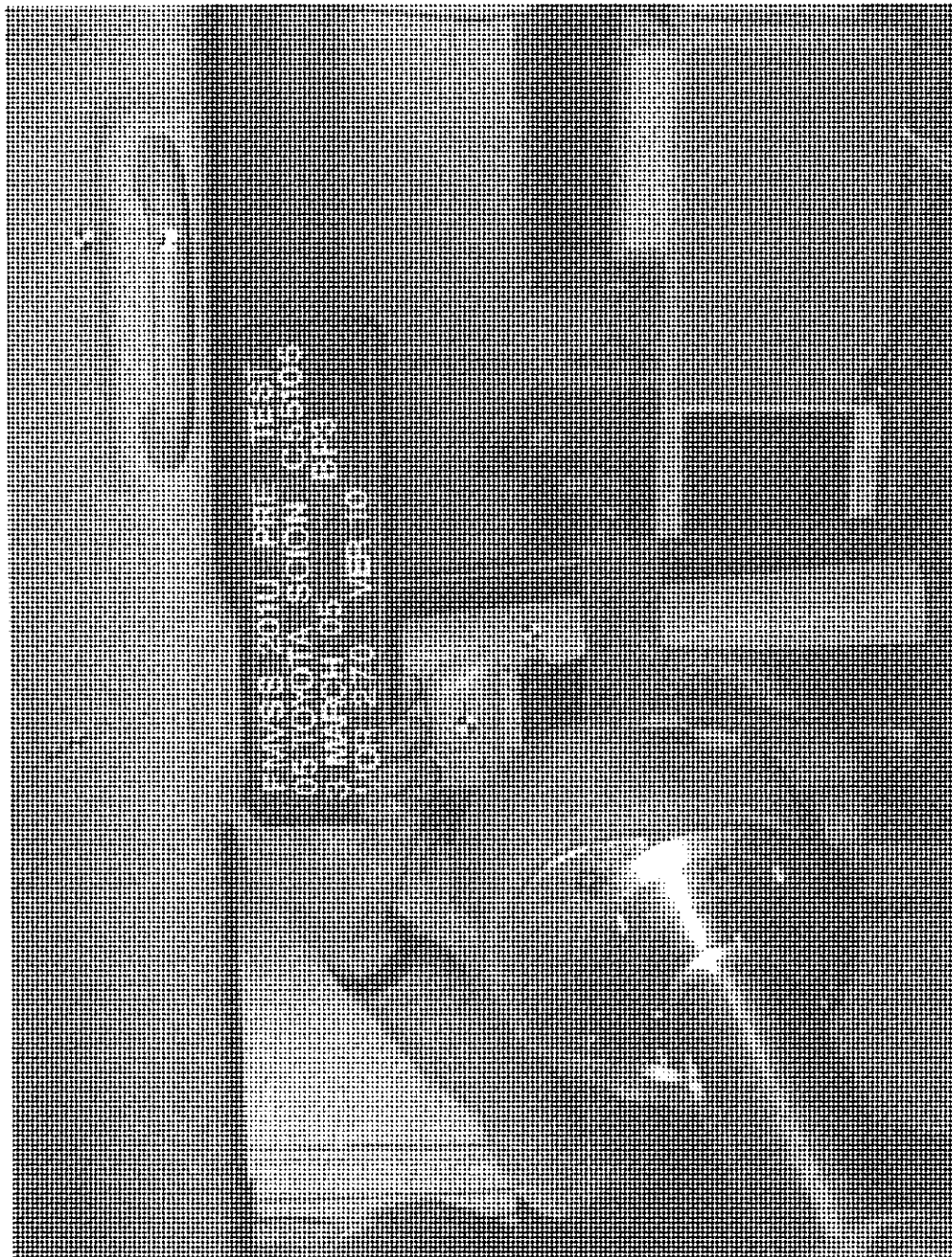


FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 23.7 [KPH] at -0.013 [s]
 Min: -10.2 [KPH] at 0.042 [s]

Headform Velocity





PRE-IMPACT RPS

8754-FMII-03

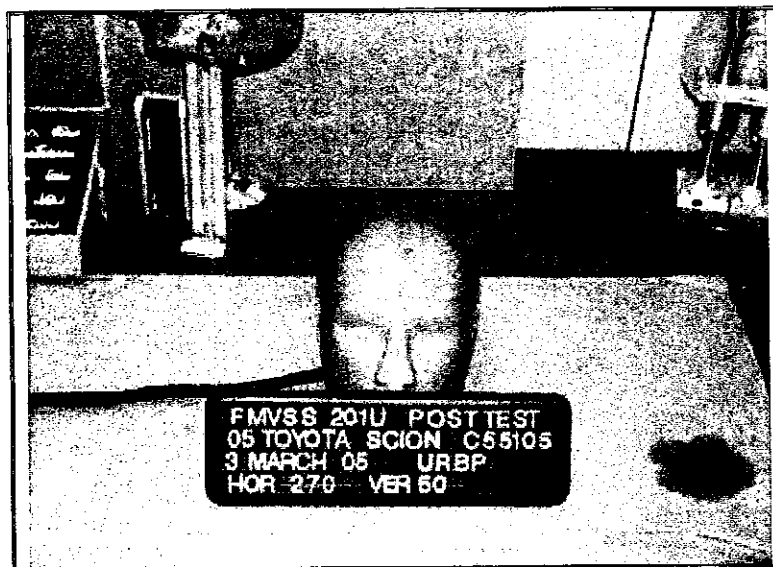


POST-IMPACT HP2

VEHICLE YEAR/MAKE/MODEL/STYLE:	2005 Toyota Scion xB
VIN:	JTLKT334254011280
DATE OF MANUFACTURE:	11/04(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	12
Test Date:	03/03/05
Target Location:	Upper Roof
Target Code:	URBP
Horizontal Impact Angle:	270°
Vertical Impact Angle:	50°
Ambient Temperature:	24 C°
Relative Humidity:	14
Time of Impact:	13:15
Headform Number:	0062

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	7	mm right	x mm left
On Centerline	38	mm up	



POST-IMPACT URBP HEADFORM

Free Motion HIC	400.6
HIC(d)	468.6
Impact Velocity (kph)	23.87
HIC T1 (msec)	3.9
HIC T2 (msec)	12.5

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB C55105 - URBP

FMH Headform 0062

Location: URBP

Test Date: March 03, 2005

Work File: URBP

TEST RESULTS

Lab Temperature: 24 C

HICd: 468.6

Lab Humidity: 14 %

HIC (36ms): 400.6

Velocity at Impact: 23.87 KPH

t1: 3.9 msec

t2: 12.5 msec

Free Flight Distance: 212.97 mm

Duration: 8.5 msec

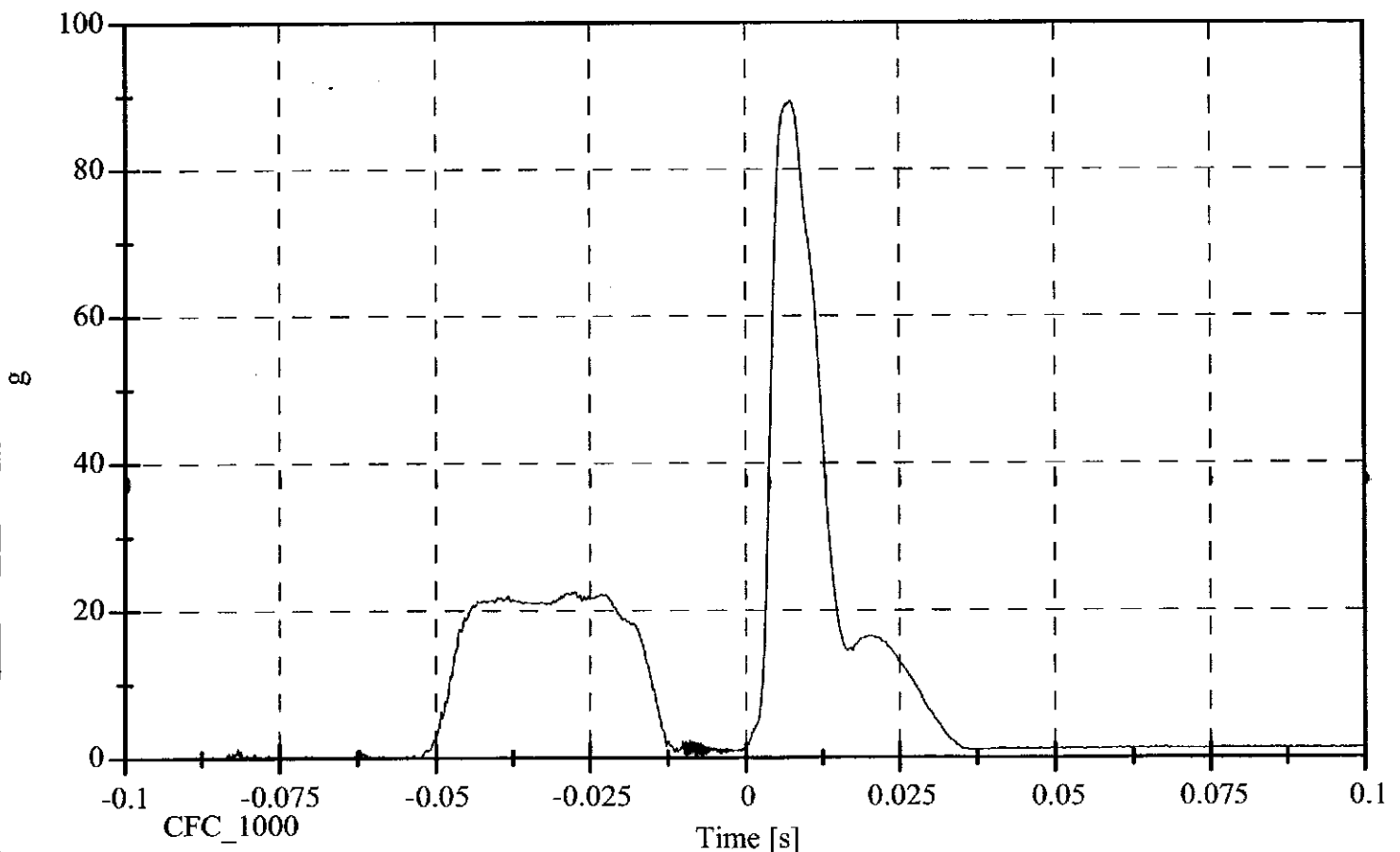
Maximum: 89.3 g

Average Acceleration: 8.9 g

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB
Headform Resultant

Max: 89.3 [g] at 0.007 [s]

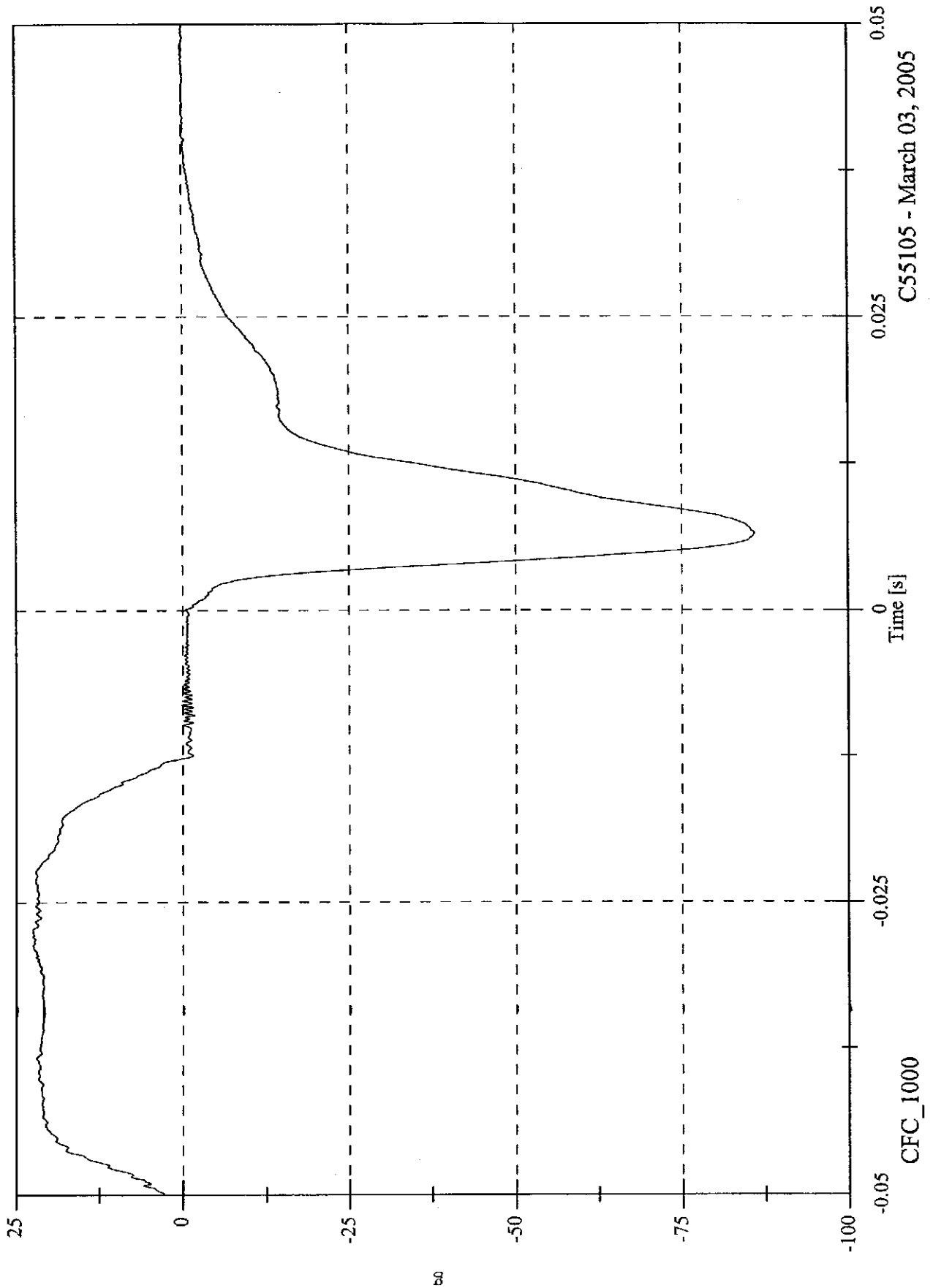
Min: 0.0 [g] at -0.097 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform X Acceleration

Max: 22.5 [g] at -0.027 [s]
Min: -85.9 [g] at 0.007 [s]

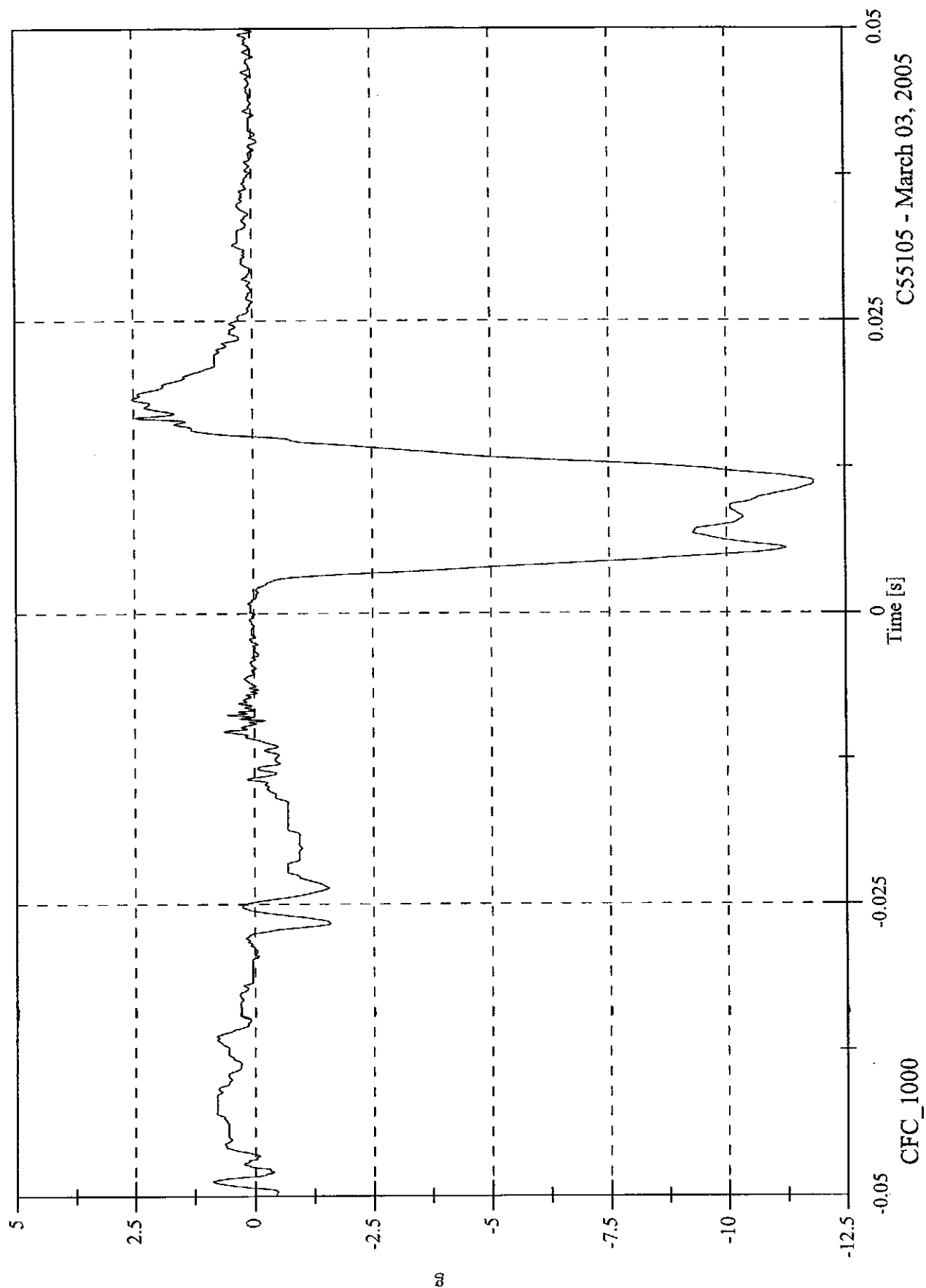


C55105 - March 03, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Y Acceleration

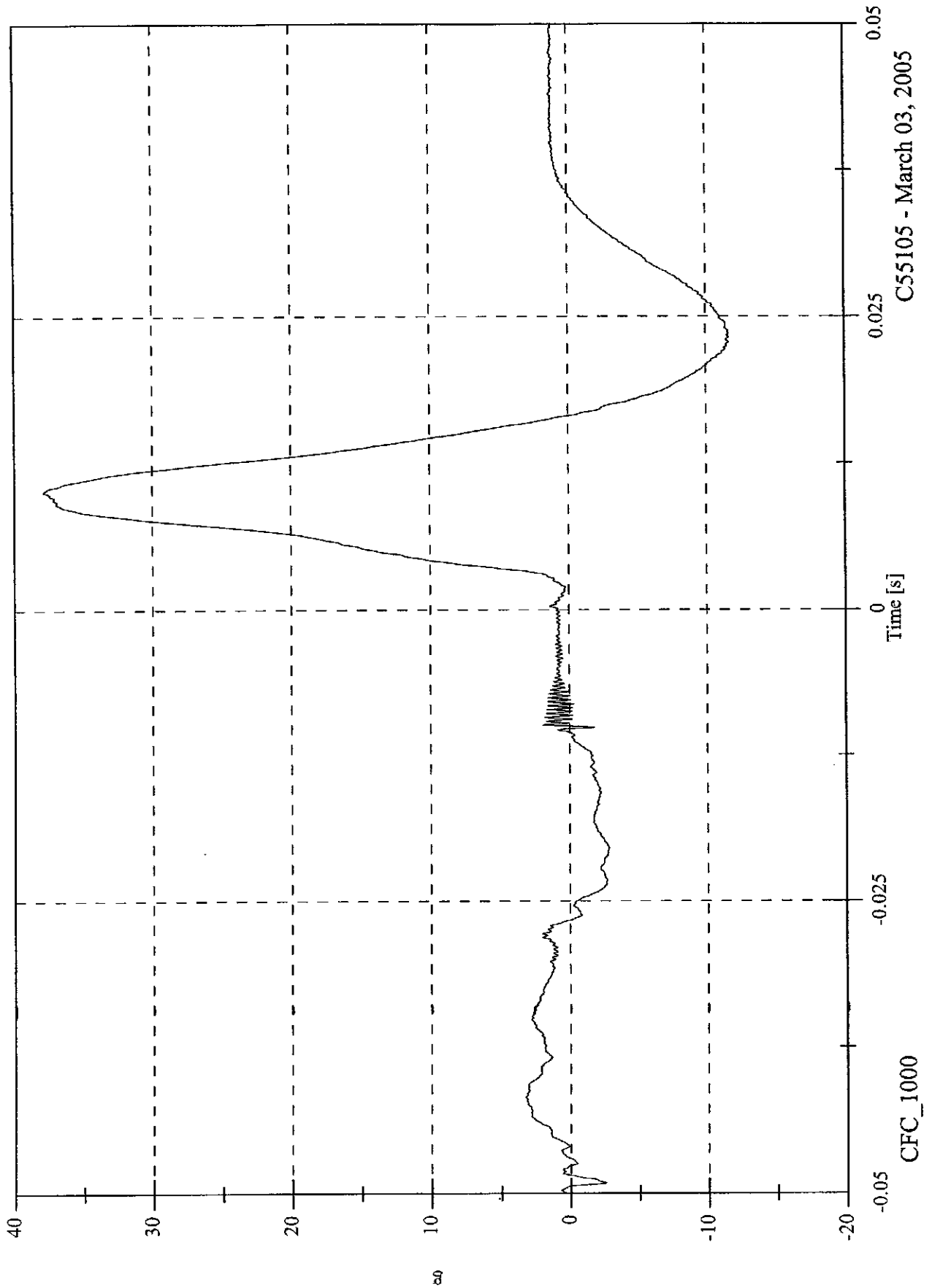
Max: 2.5 [g] at 0.018 [s]
Min: -11.8 [g] at 0.011 [s]



FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Z Acceleration

Max: 37.9 [g] at 0.010 [s]
Min: -11.7 [g] at 0.023 [s]

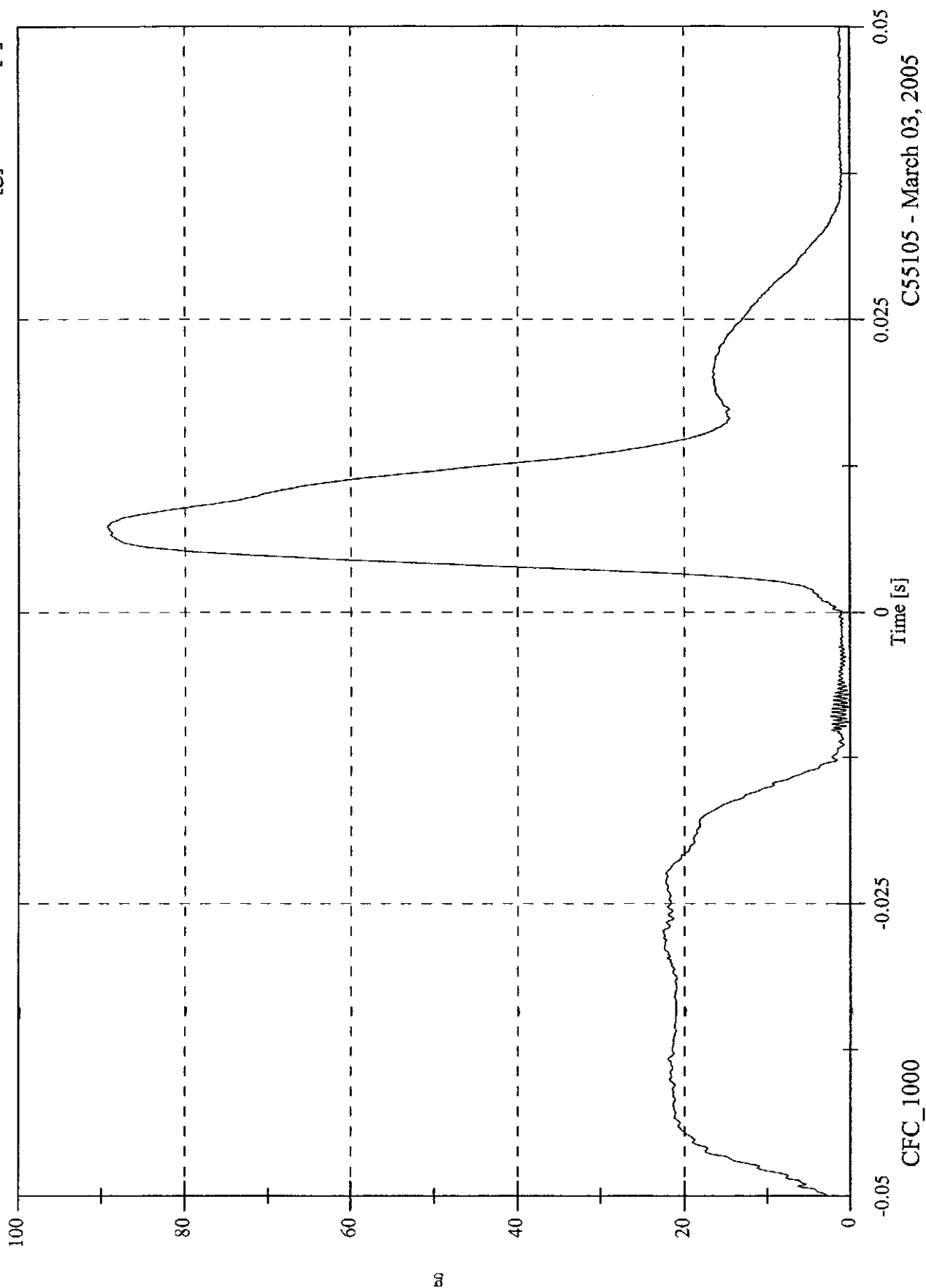


C55105 - March 03, 2005

FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Headform Resultant

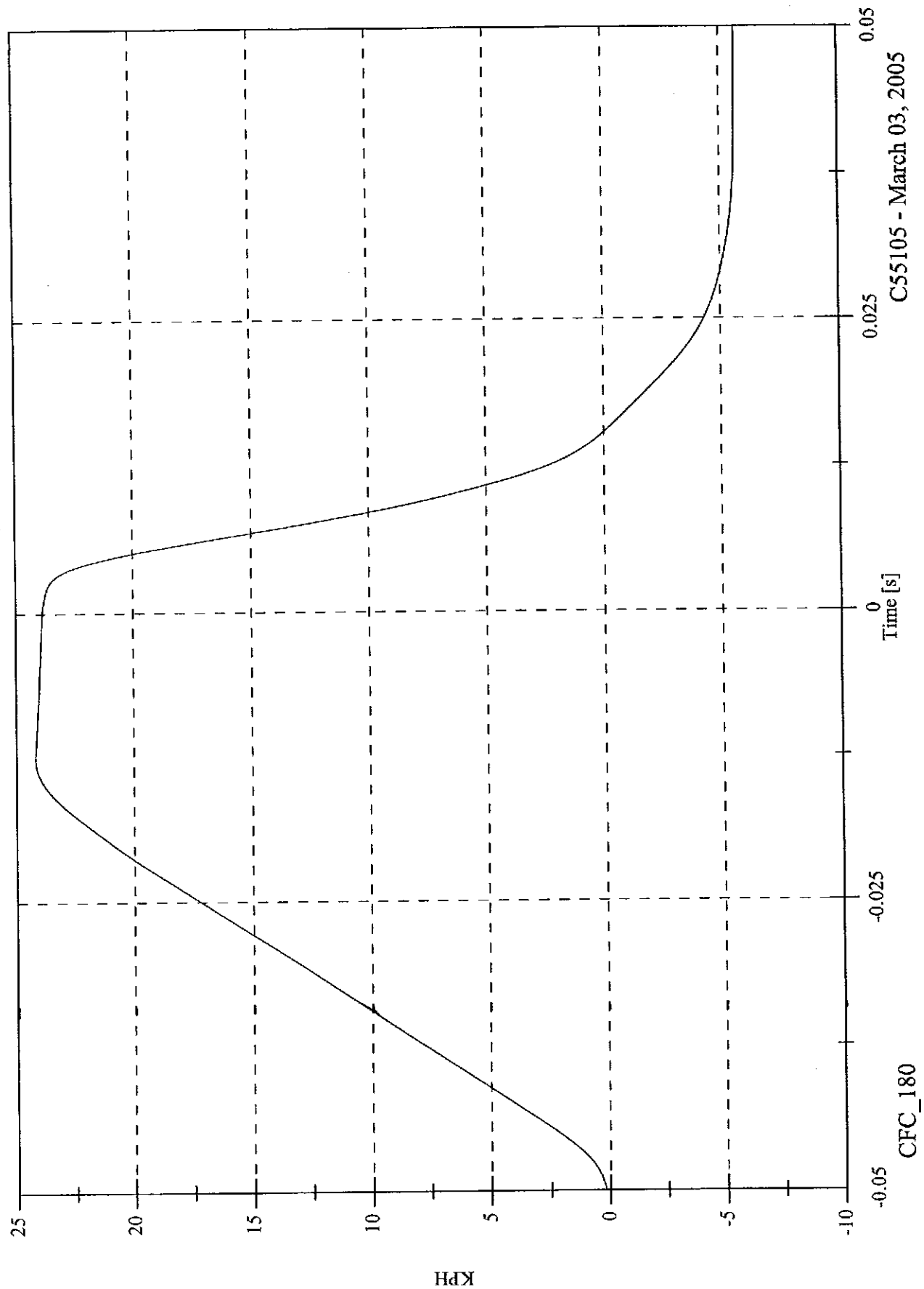
Max: 89.3 [g] at 0.007 [s]
Min: 0.2 [g] at -0.008 [s]



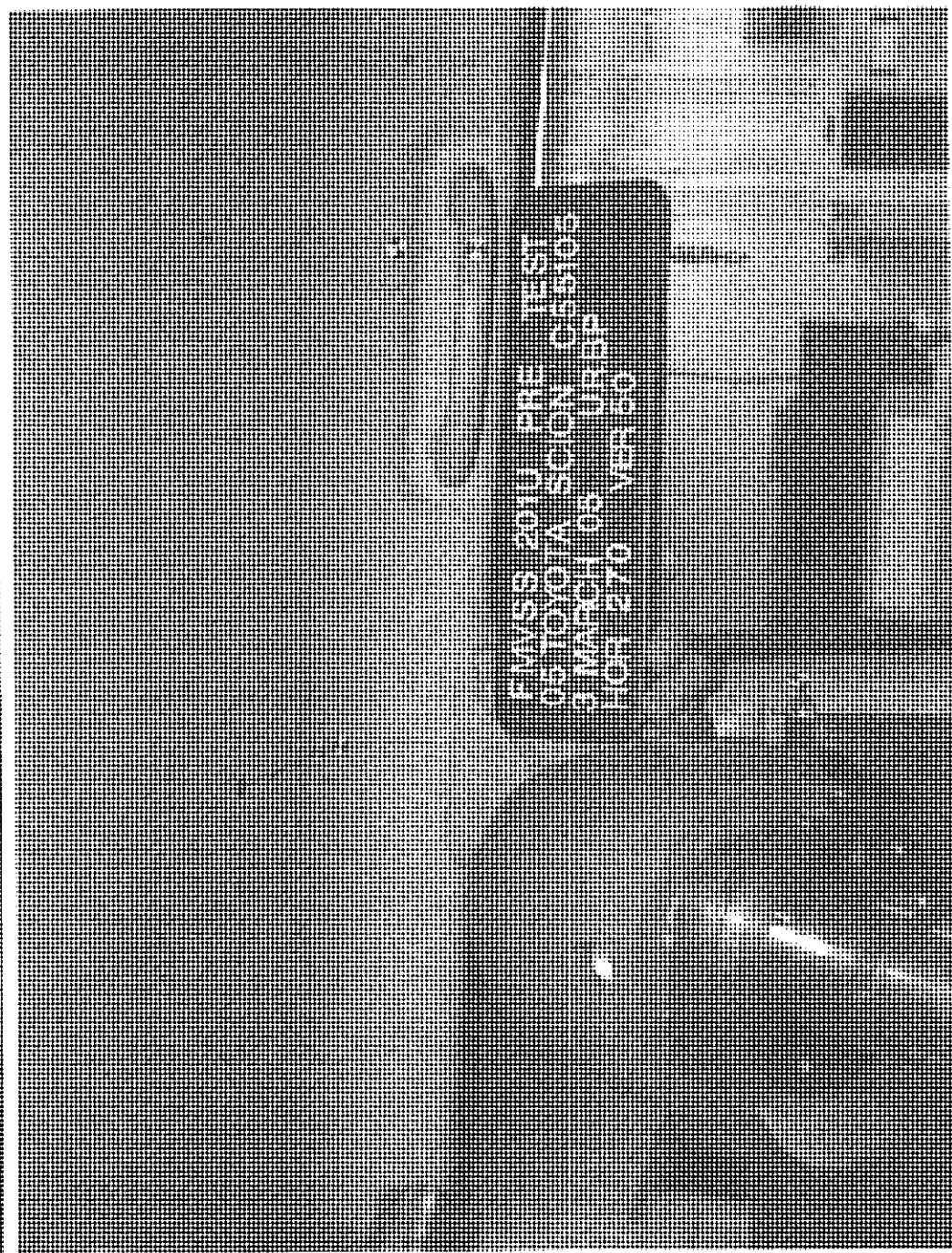
FMVSS 201U IMPACT TEST - 2005 Toyota Scion xB

Max: 24.2 [KPH] at -0.013 [s]
Min: -5.6 [KPH] at 0.050 [s]

Headform Velocity



CFC_180



PRE-IMPACT URB

FMVSS 201U POST TEST
US TOYOTA SOON C88105
3 MARCH 06 JREBP
HOF 270 VHF 50

POST-IMPACT EIRBP

APPENDIX A

PHOTOGRAPHS

PHOTOGRAPHS

FIGURE	VIEW
A-1	LEFT SIDE VIEW OF VEHICLE
A-2	RIGHT SIDE VIEW OF VEHICLE
A-3	3/4 FRONTAL VIEW FROM LEFT SIDE OF VEHICLE
A-4	3/4 REAR VIEW FROM RIGHT SIDE OF VEHICLE
A-5	VEHICLE'S CERTIFICATION LABEL
A-6	VEHICLE'S TIRE INFORMATION LABEL
A-7	PRE-TEST DRIVER SIDE A-PILLAR
A-8	PRE-TEST DRIVER SIDE FRONT HEADER
A-9	PRE-TEST DRIVER SIDE SIDE RAIL
A-10	PRE-TEST DRIVER SIDE B-PILLAR
A-11	PRE-TEST DRIVER SIDE OTHER PILLAR
A-12	PRE-TEST DRIVER SIDE REAR PILLAR
A-13	PRE-TEST PASSENGER SIDE A-PILLAR
A-14	PRE-TEST PASSENGER SIDE FRONT HEADER
A-15	PRE-TEST PASSENGER SIDE SIDE RAIL
A-16	PRE-TEST PASSENGER SIDE B-PILLAR
A-17	PRE-TEST PASSENGER SIDE OTHER PILLAR
A-18	PRE-TEST PASSENGER SIDE REAR PILLAR
A-19	POST-TEST DRIVER SIDE A-PILLAR
A-20	POST-TEST DRIVER FRONT HEADER
A-21	POST-TEST DRIVER SIDE SIDE RAIL
A-22	POST-TEST DRIVER SIDE B-PILLAR
A-23	POST-TEST DRIVER SIDE OTHER PILLAR
A-24	POST-TEST DRIVER SIDE REAR PILLAR
A-25	POST-TEST PASSENGER SIDE A-PILLAR
A-26	POST-TEST PASSENGER FRONT HEADER
A-27	POST-TEST PASSENGER SIDE SIDE RAIL
A-28	POST-TEST PASSENGER SIDE B-PILLAR
A-29	POST-TEST PASSENGER SIDE OTHER PILLAR
A-30	POST-TEST PASSENGER SIDE REAR PILLAR



Figure A-1: LEFT SIDE VIEW OF VEHICLE

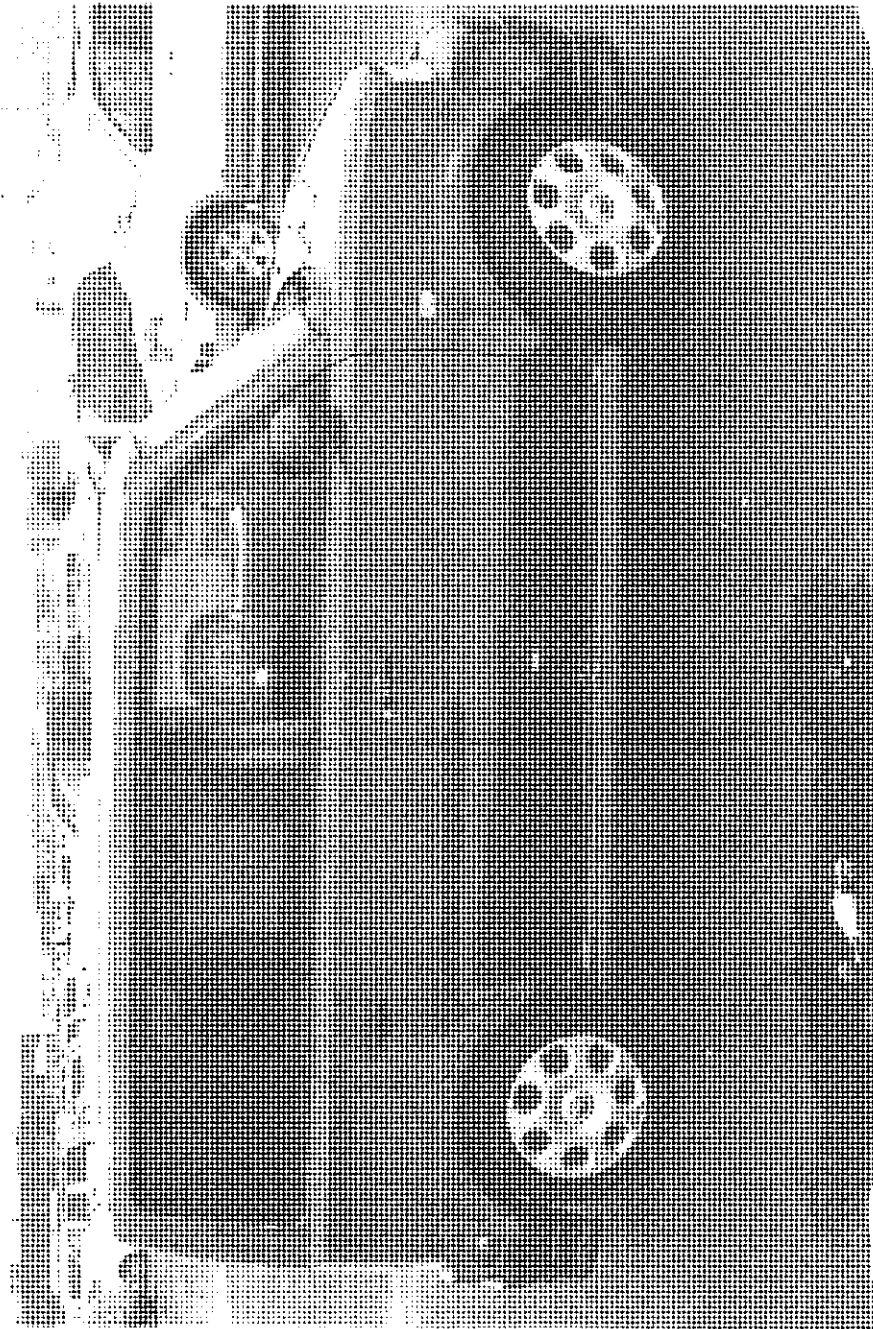


Figure A-2 : RIGHT SIDE VIEW OF VEHICLE



Figure A-3 : 3/4 Frontal View from Left Side of Vehicle



Figure A-4: 3/4 REAR VIEW FROM RIGHT SIDE OF VEHICLE

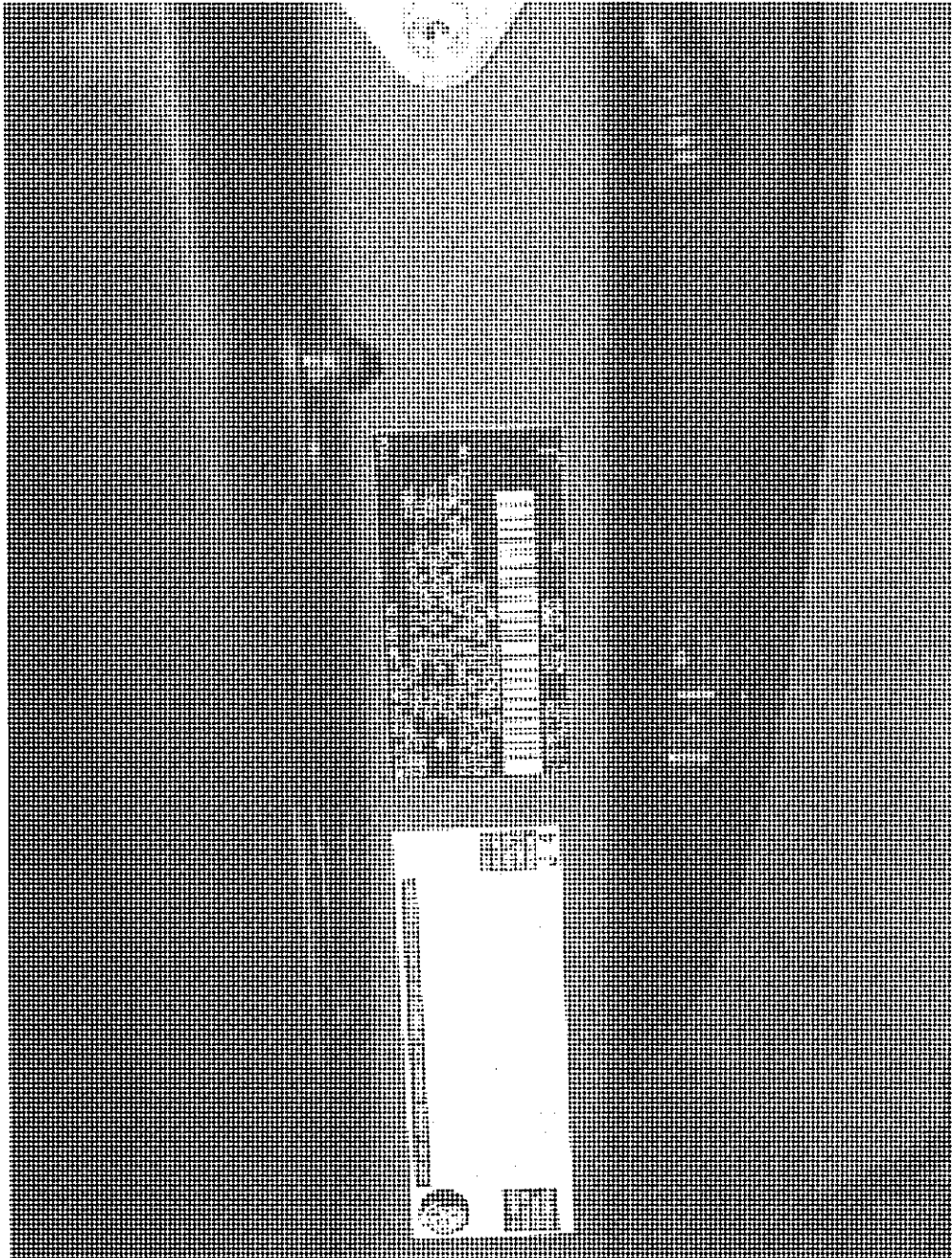


Figure A-5. VEHICLES CERTIFICATION LABEL

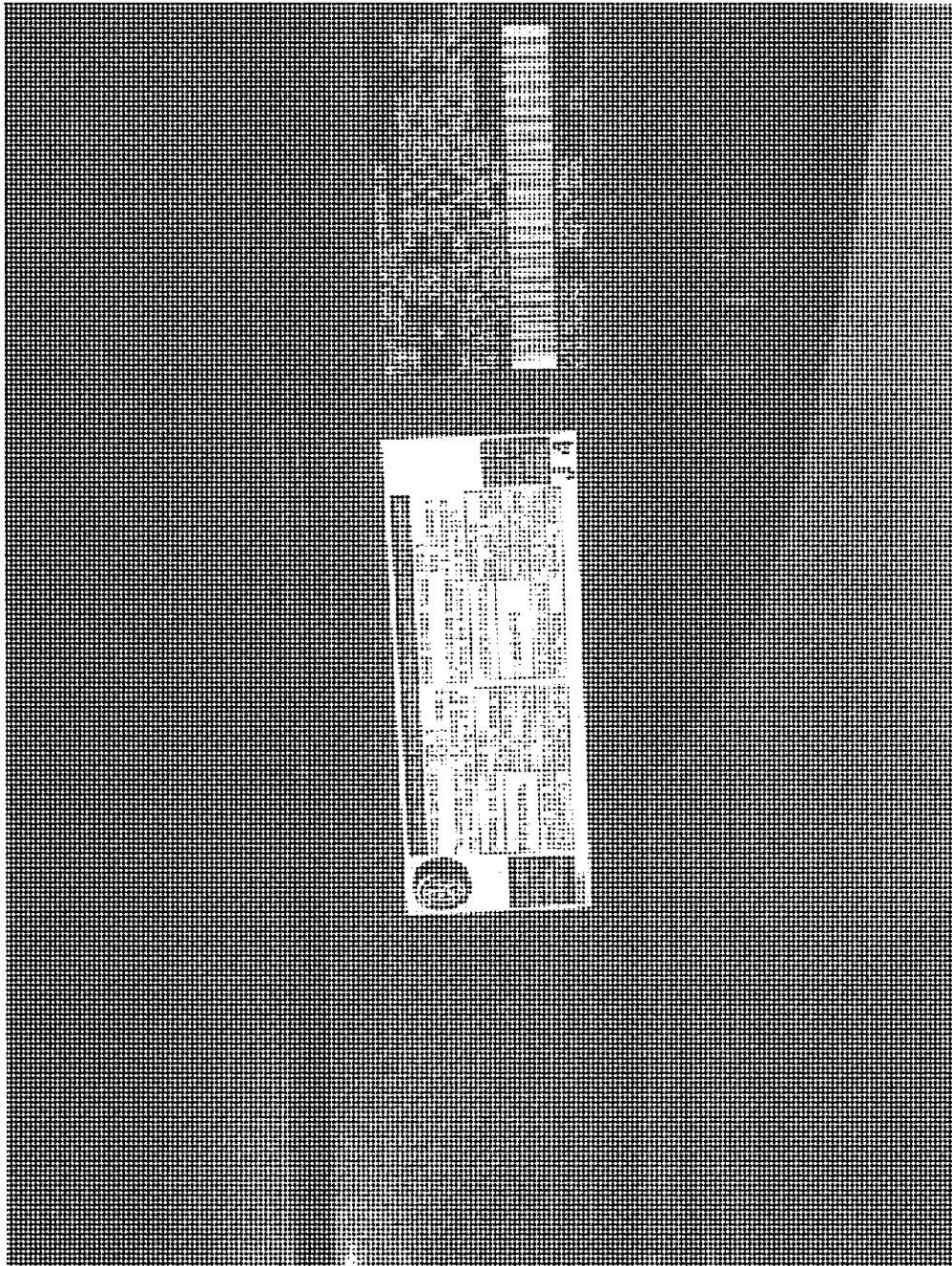


Figure A-6 : VEHICLE'S TIRE INFORMATION LABEL



Figure A-7: PRE-TEST DRIVER SIDE A-PILLAR

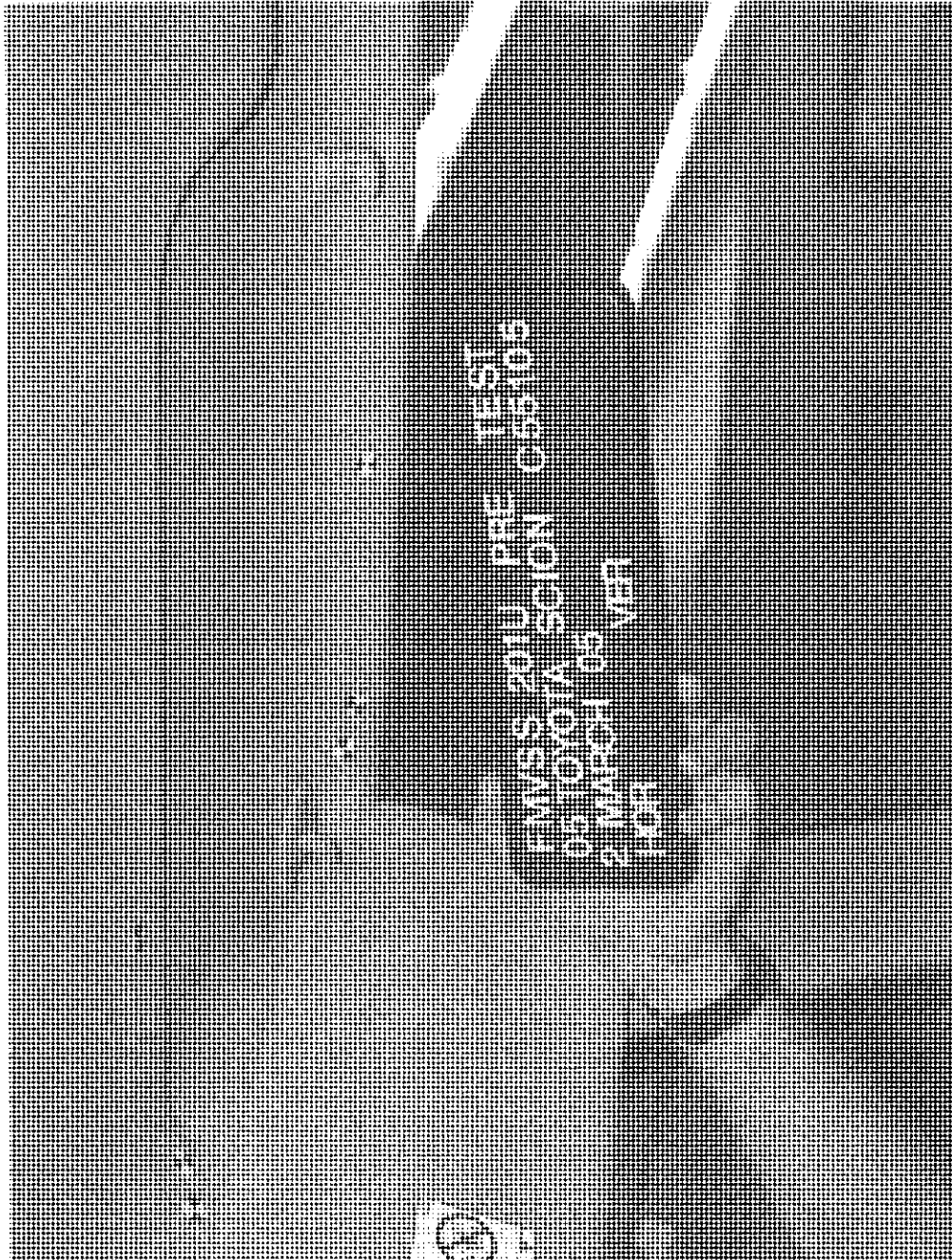


Figure A-8 PRE-TEST DRIVER SIDE FRONT HEADER

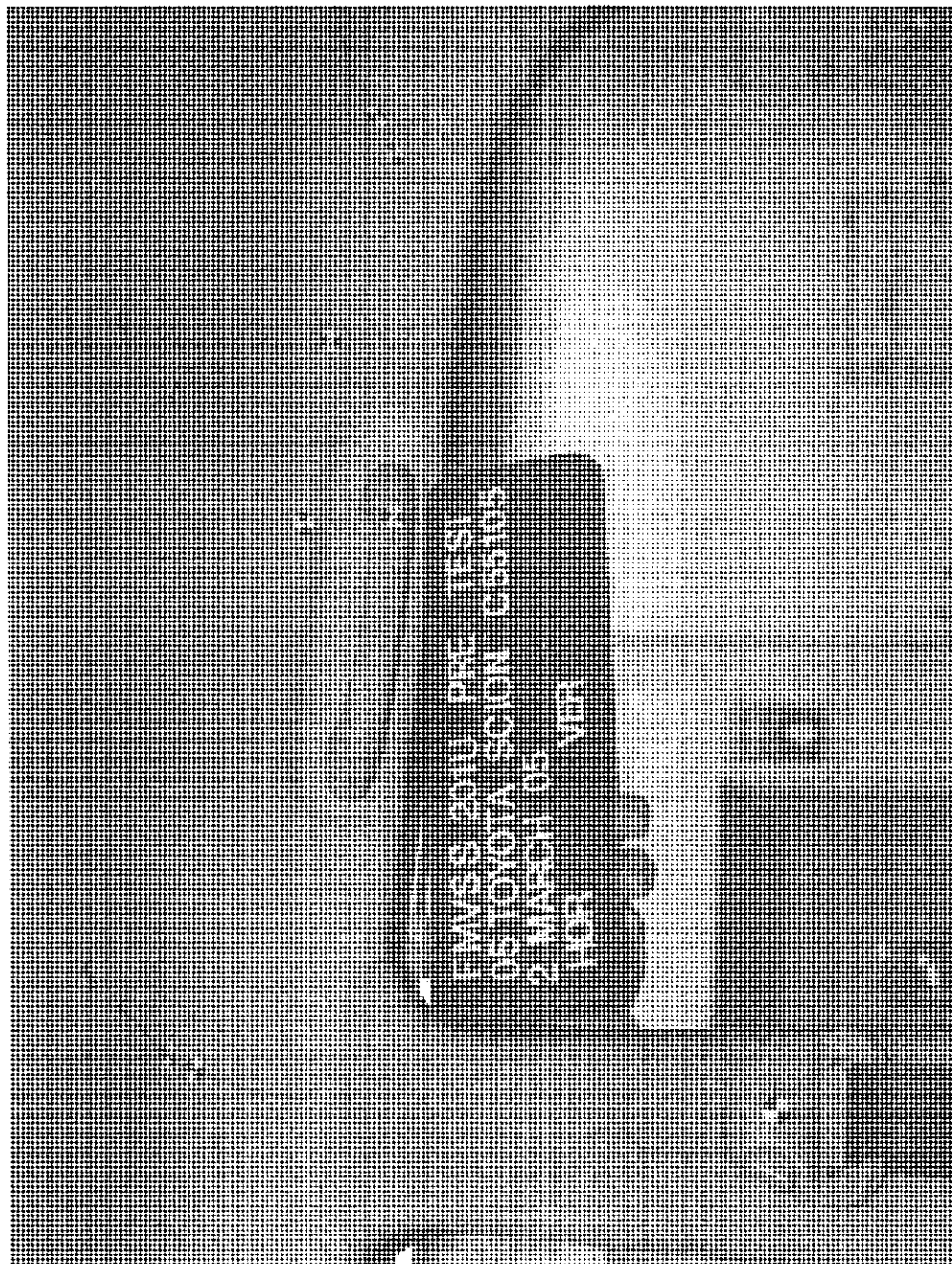


Figure A-9: PRE-TEST DRIVER SIDE SIDE RAIL



Figure A-10 PRE-TEST DRIVER SIDE B-PILLAR



Figure A-11: PRE-TEST DRIVER SIDE OTHER PILEUP

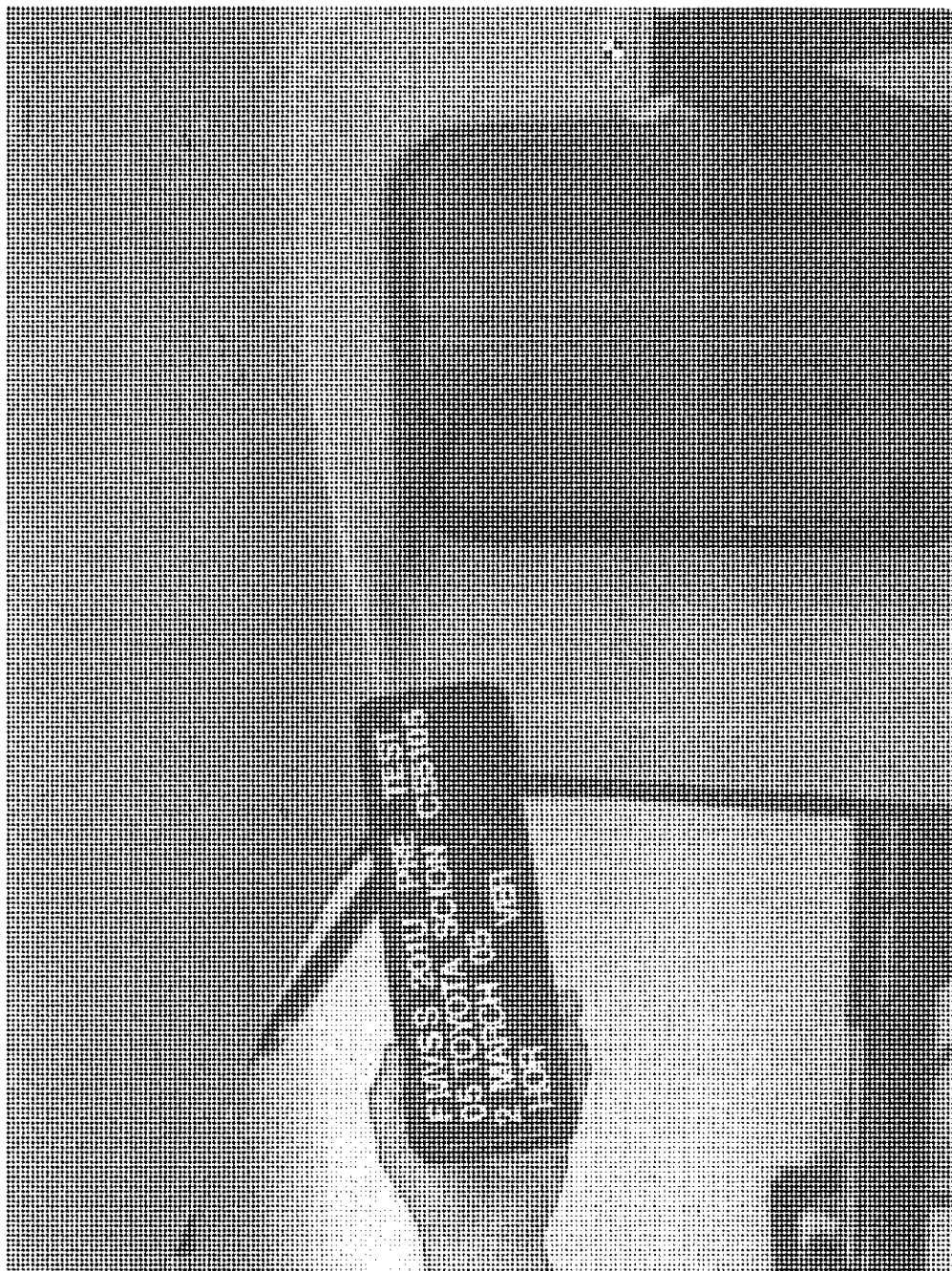


FIGURE A-12: PRE-TEST DRIVER SIDE REAR PILLAR

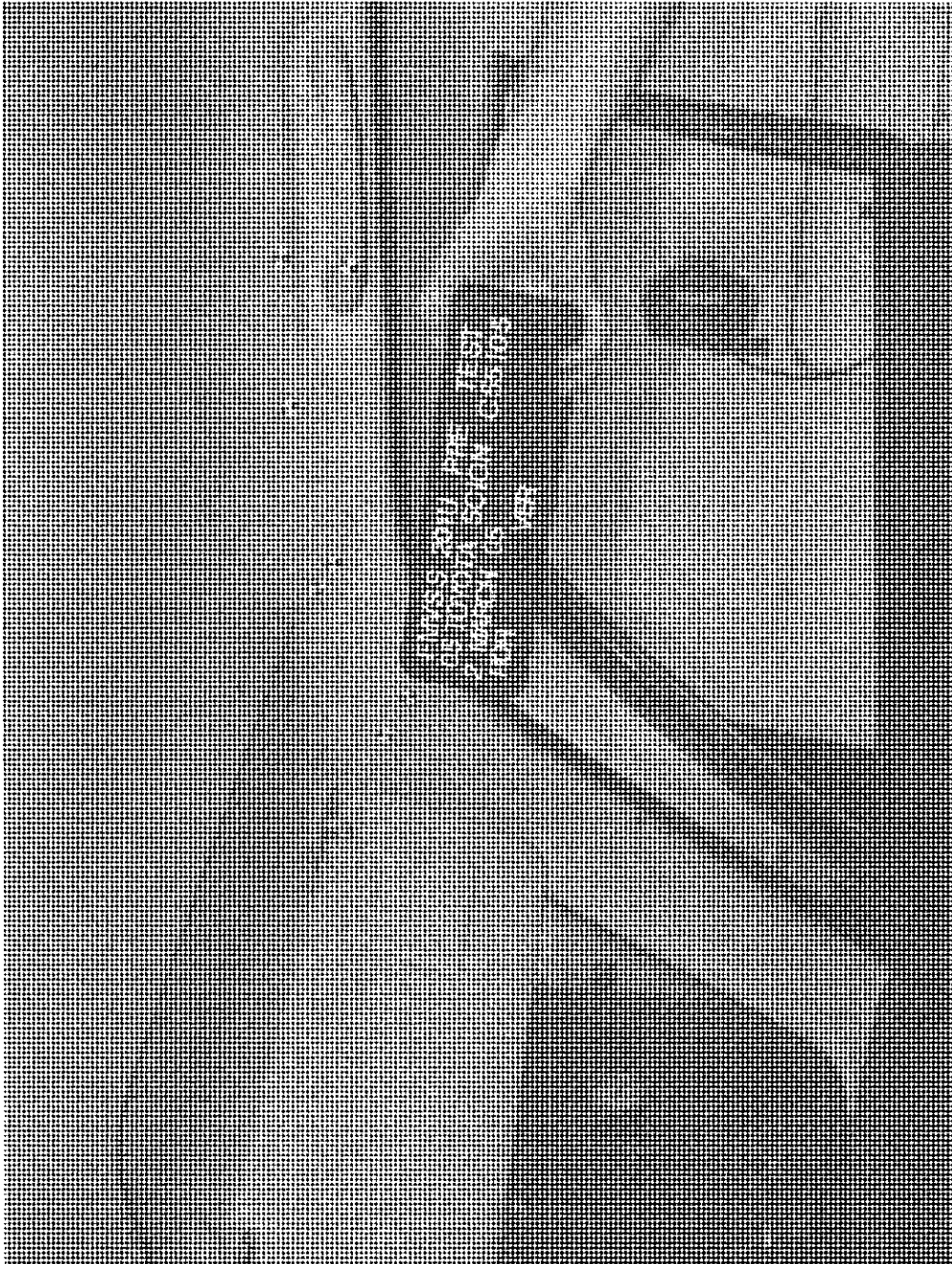


Figure A-13 : PRE-TEST PASSENGER SIDE A-PILLAR

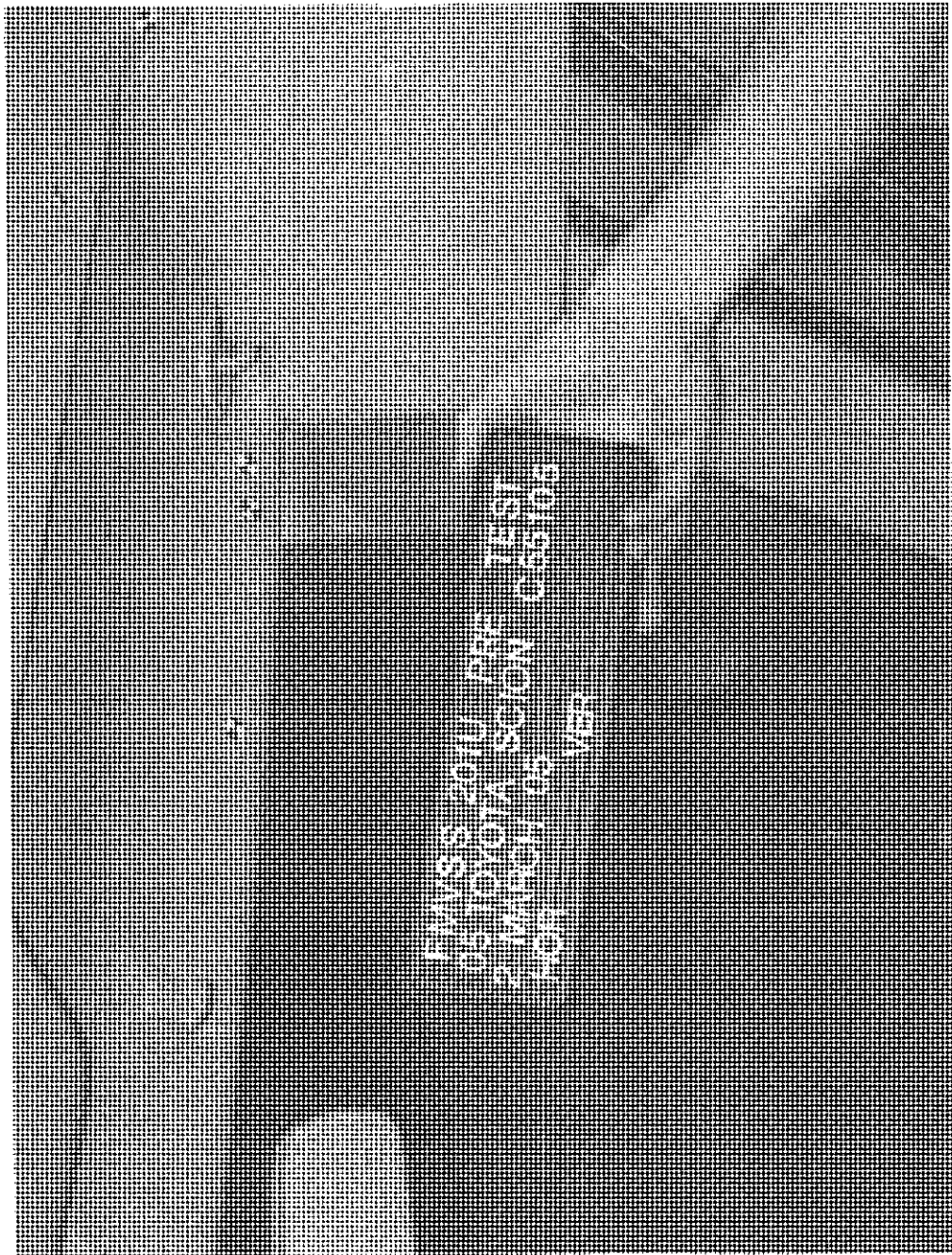


Figure A-14: PRE-TEST PASSENGER SIDE FRONT HEADER

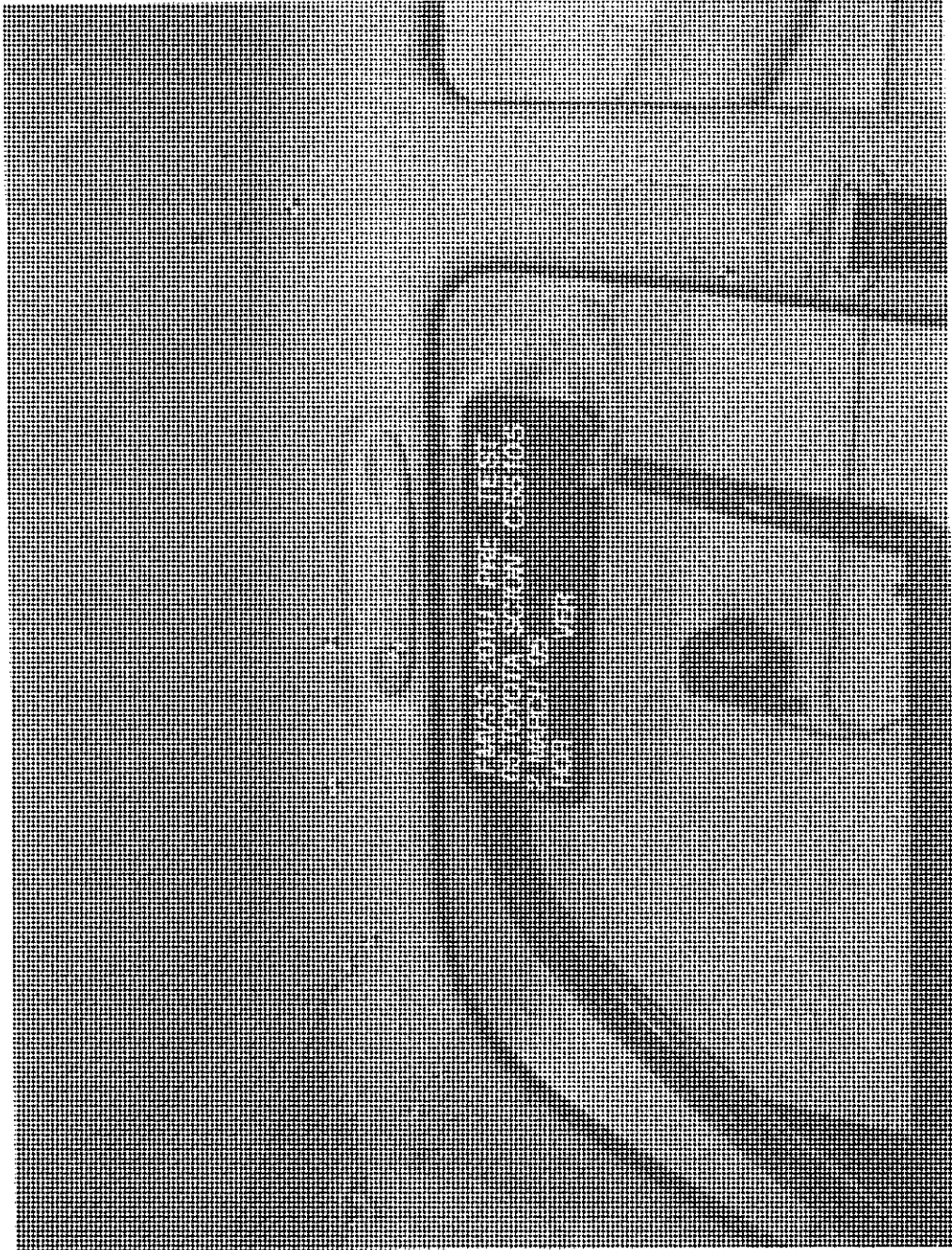


Figure A-15: PRE-TEST PASSENGER SIDE SIDE RAIL

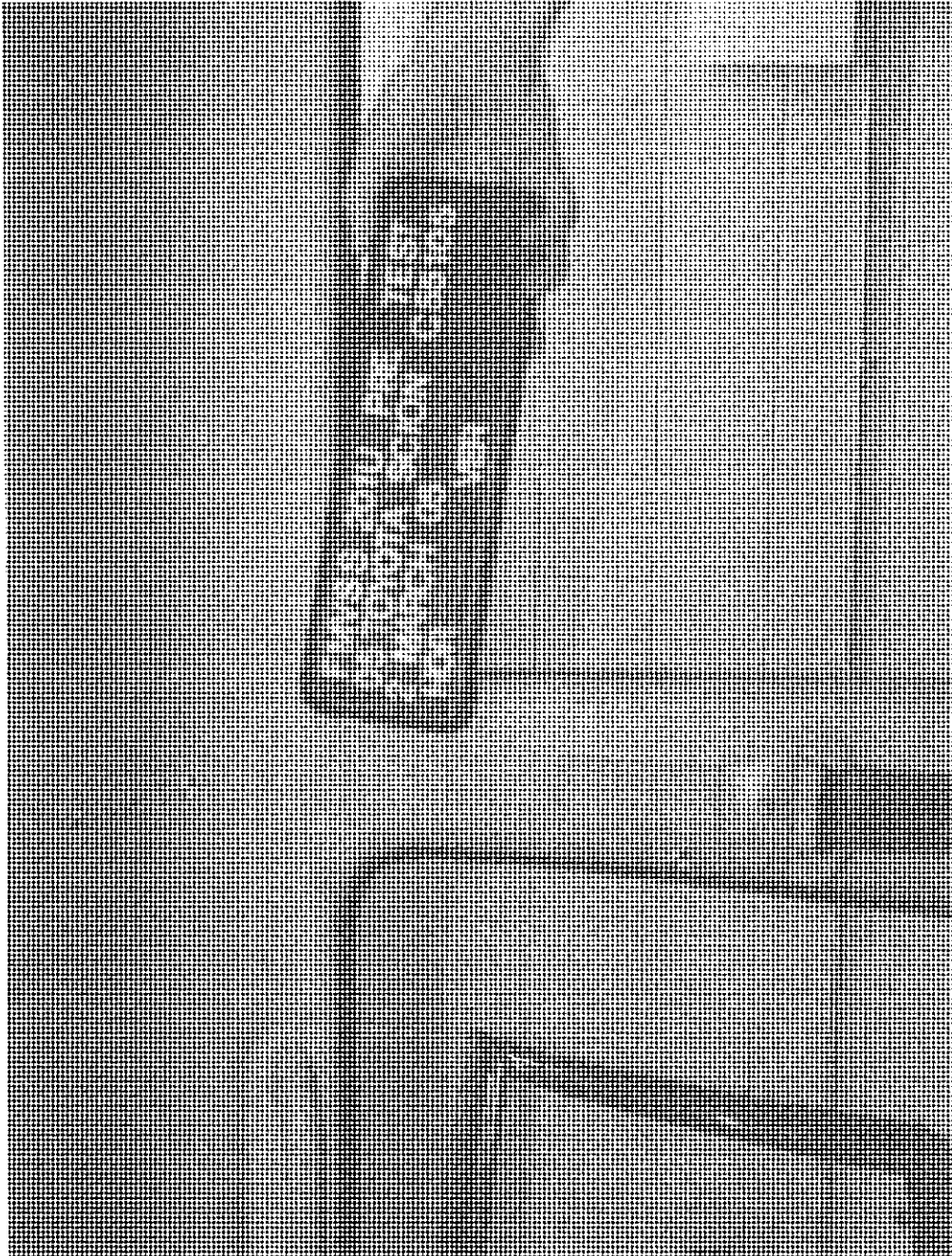


Figure A-16 : PRE-TEST PASSENGER SIDE B-PILLAR

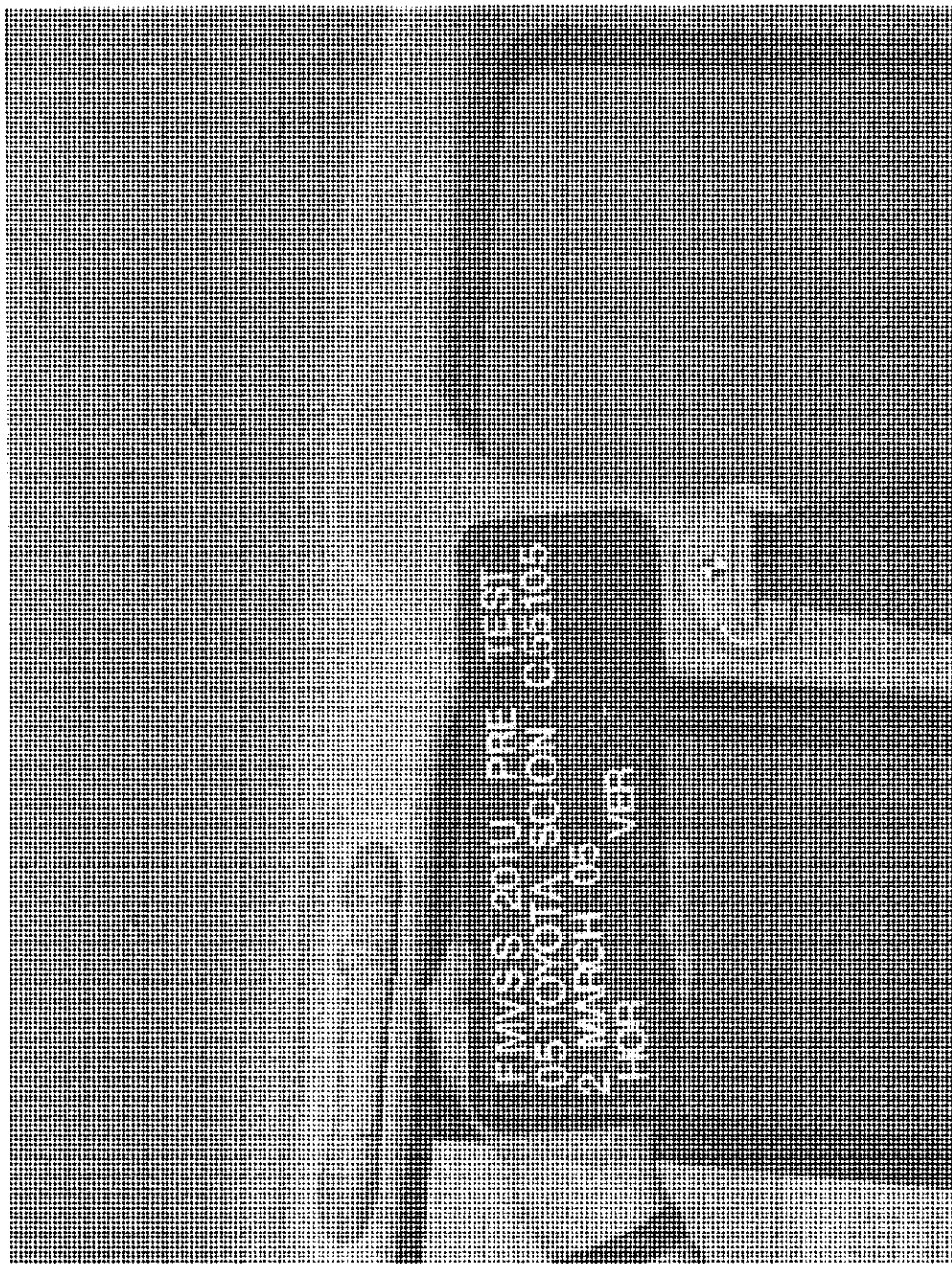


Figure A-17: PRE-TEST PASSENGER SIDE OTHER PILLAR

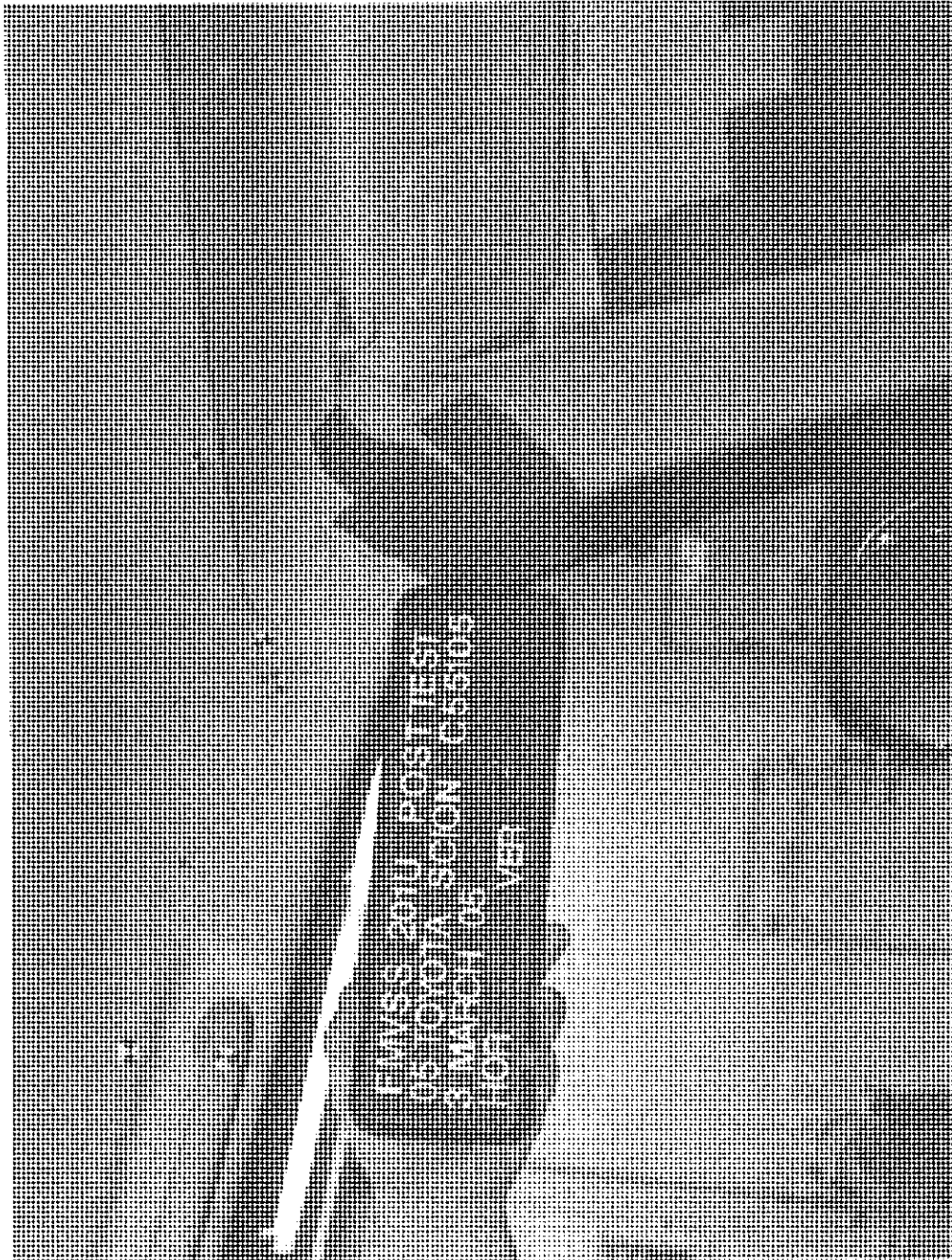


Figure A-19: POST-TEST DRIVER SIDE A-PILLAR

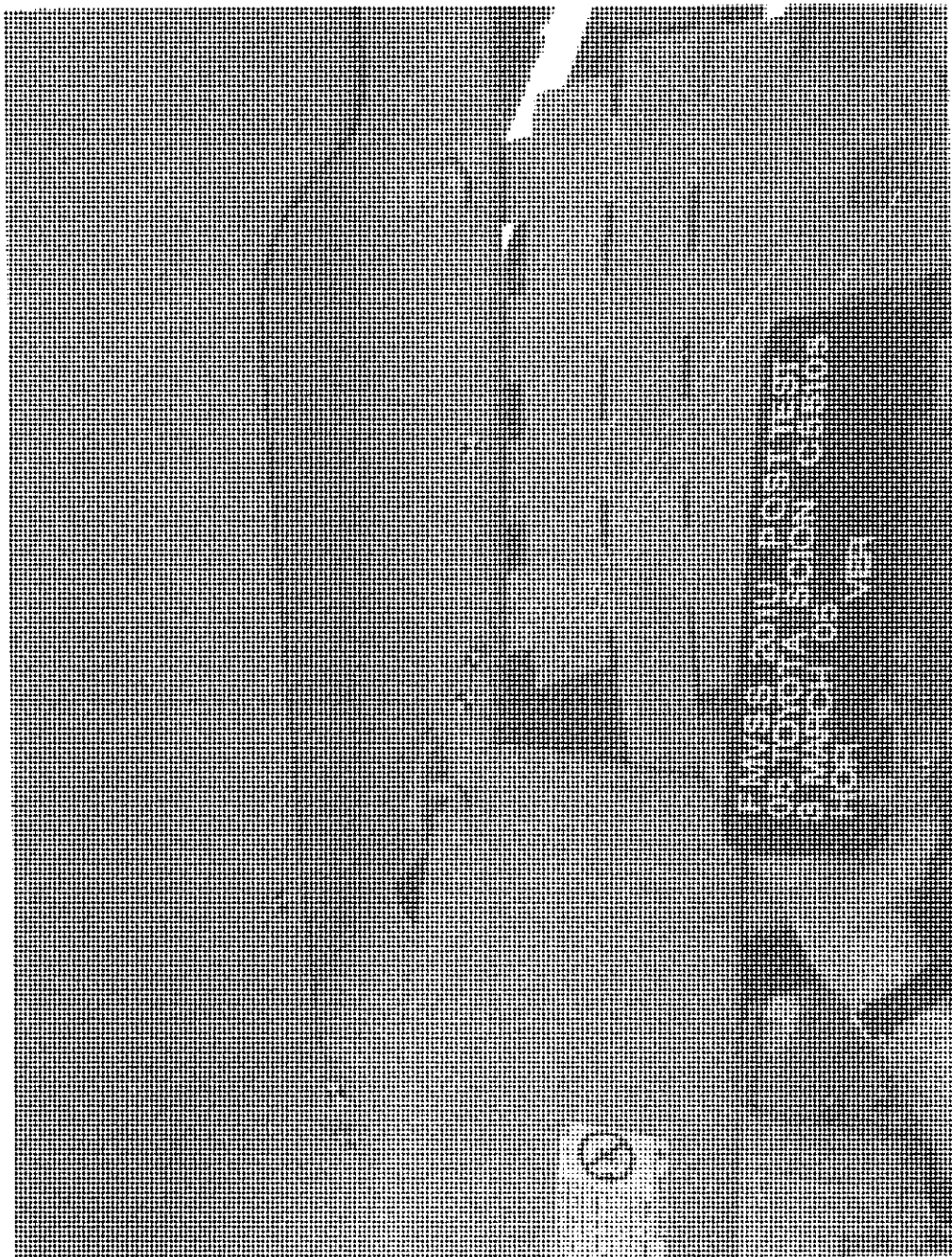


Figure A-20: POST-TEST DRIVER SIDE FRONT HEADER

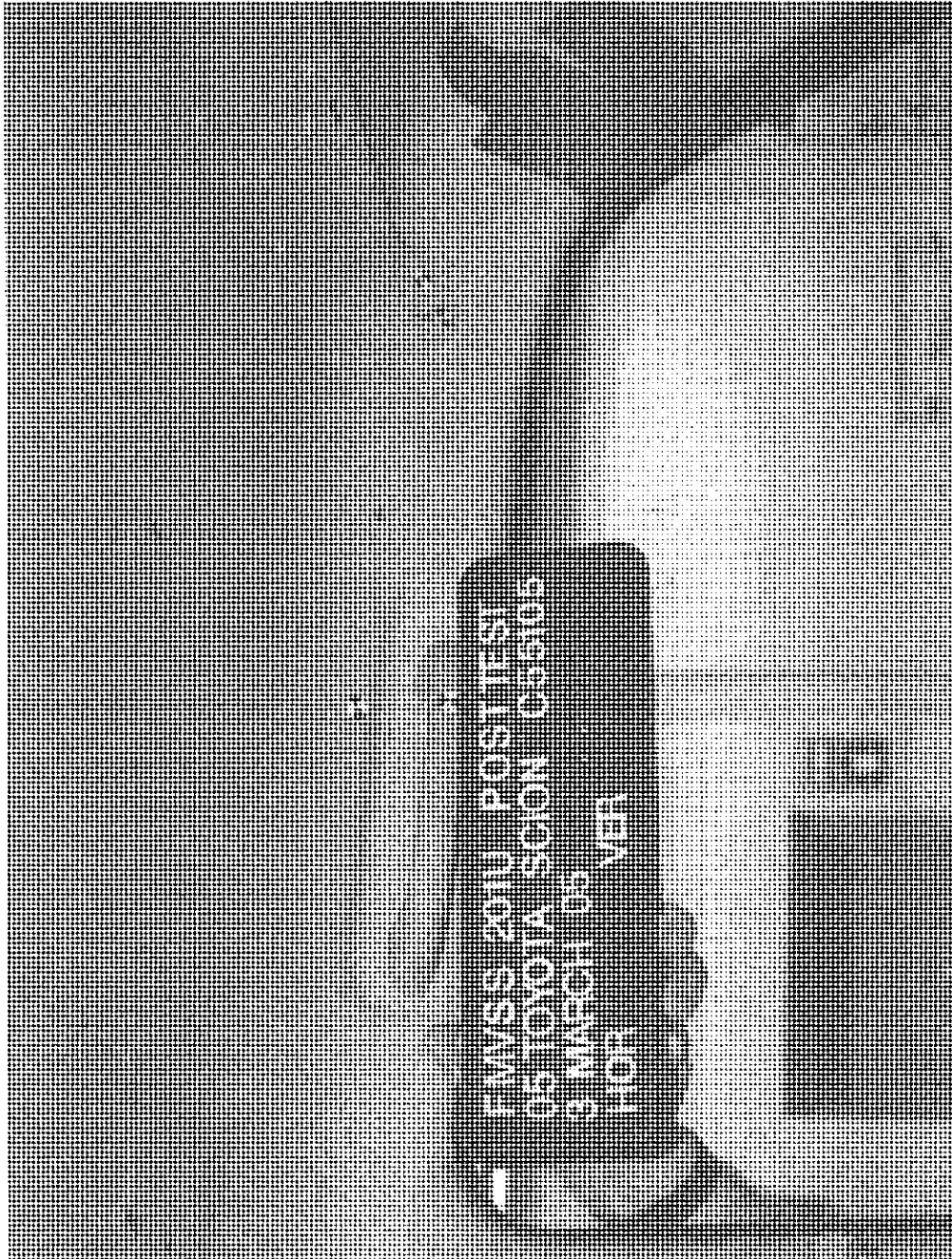


Figure A-21. POST-TEST DRIVER SIDE SIDE RAIL



Figure A-27: POST-TEST DRIVER SIDE B-PILLAR



FIGURE A-23 : POST-TEST DRIVER SIDE OTHER FILLER

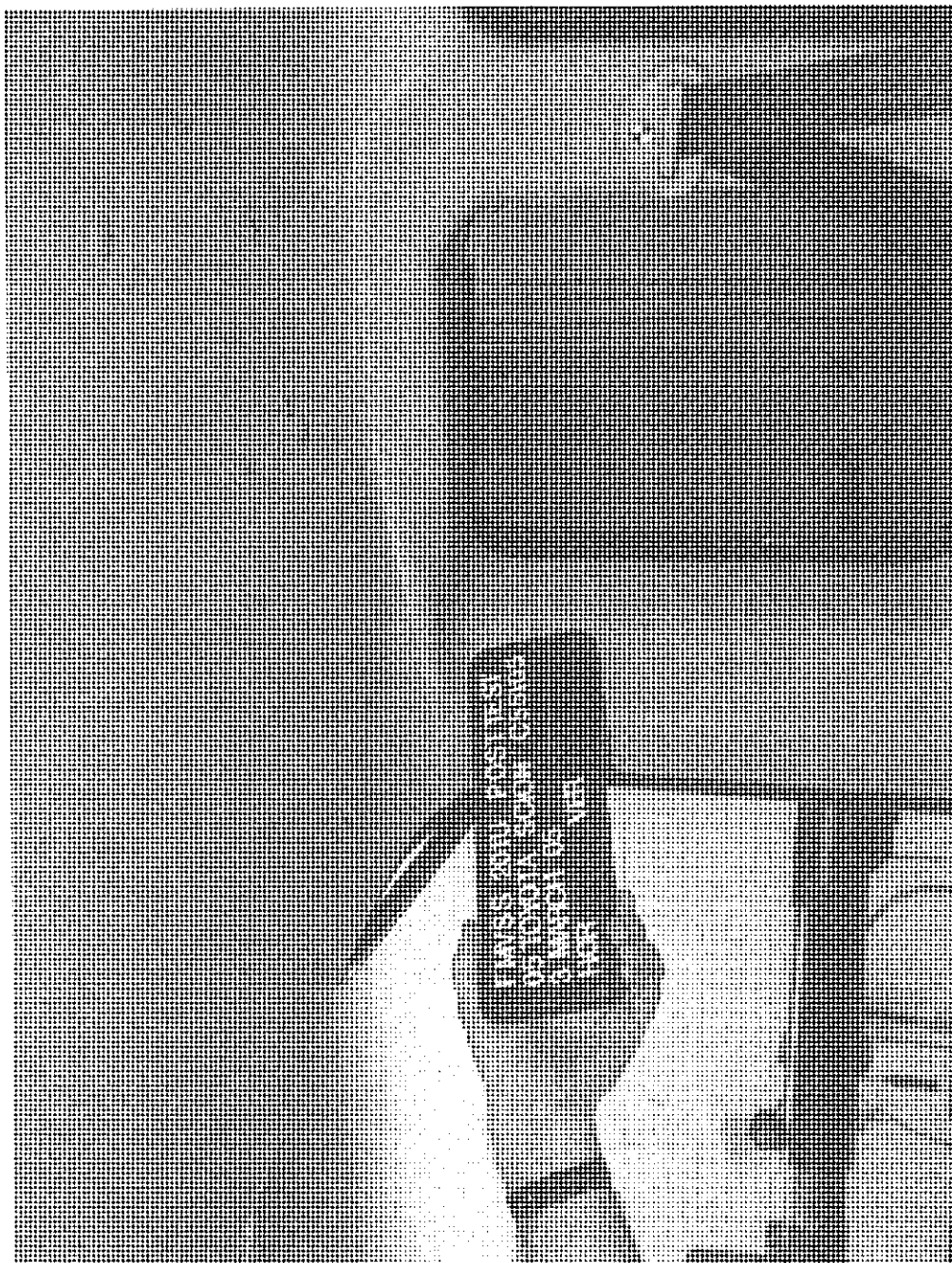


Figure A-24 : POST TEST DRIVER SIDE REAR PILLAR

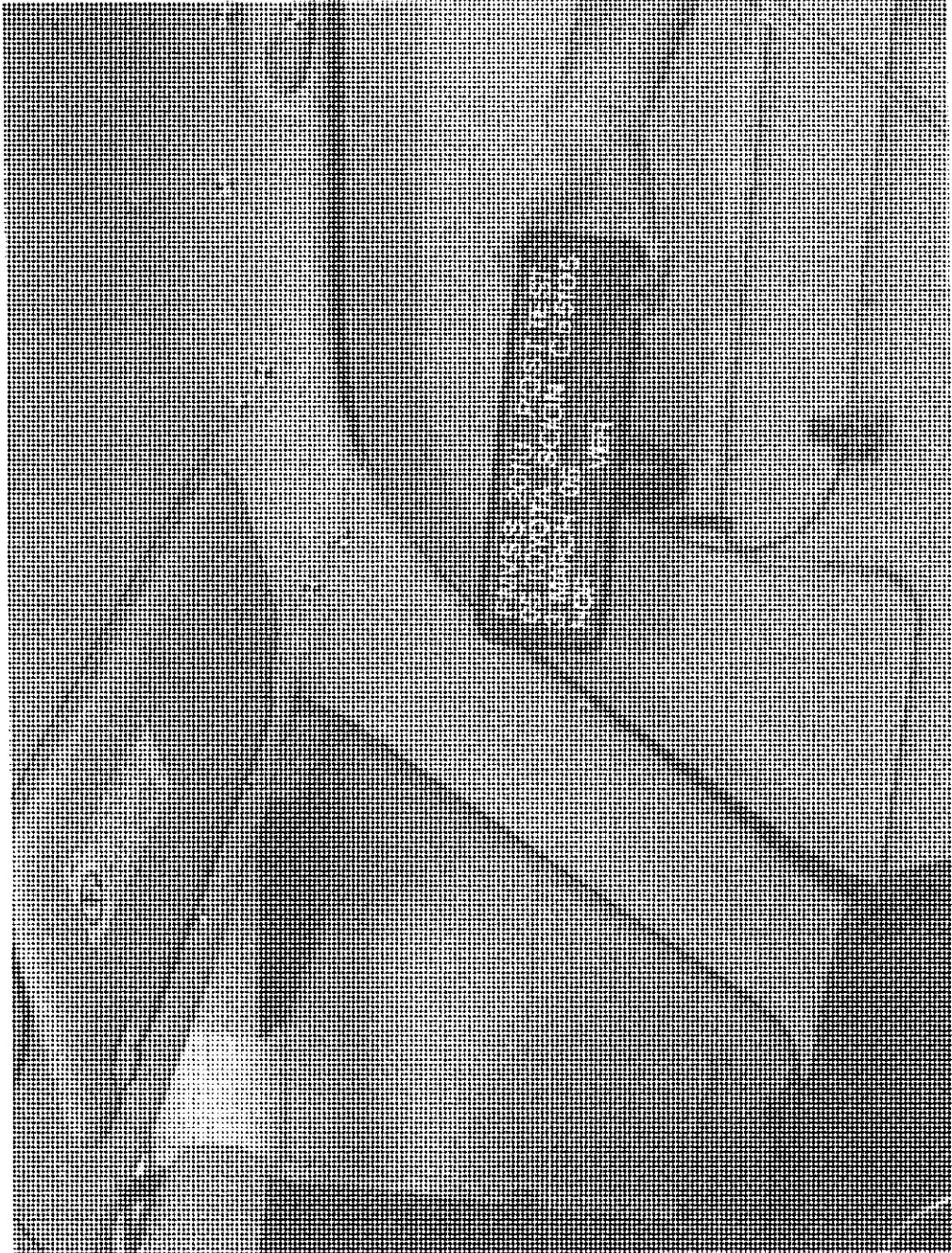


Figure A-25 : POST-TEST PASSENGER SIDE A-PILLAR

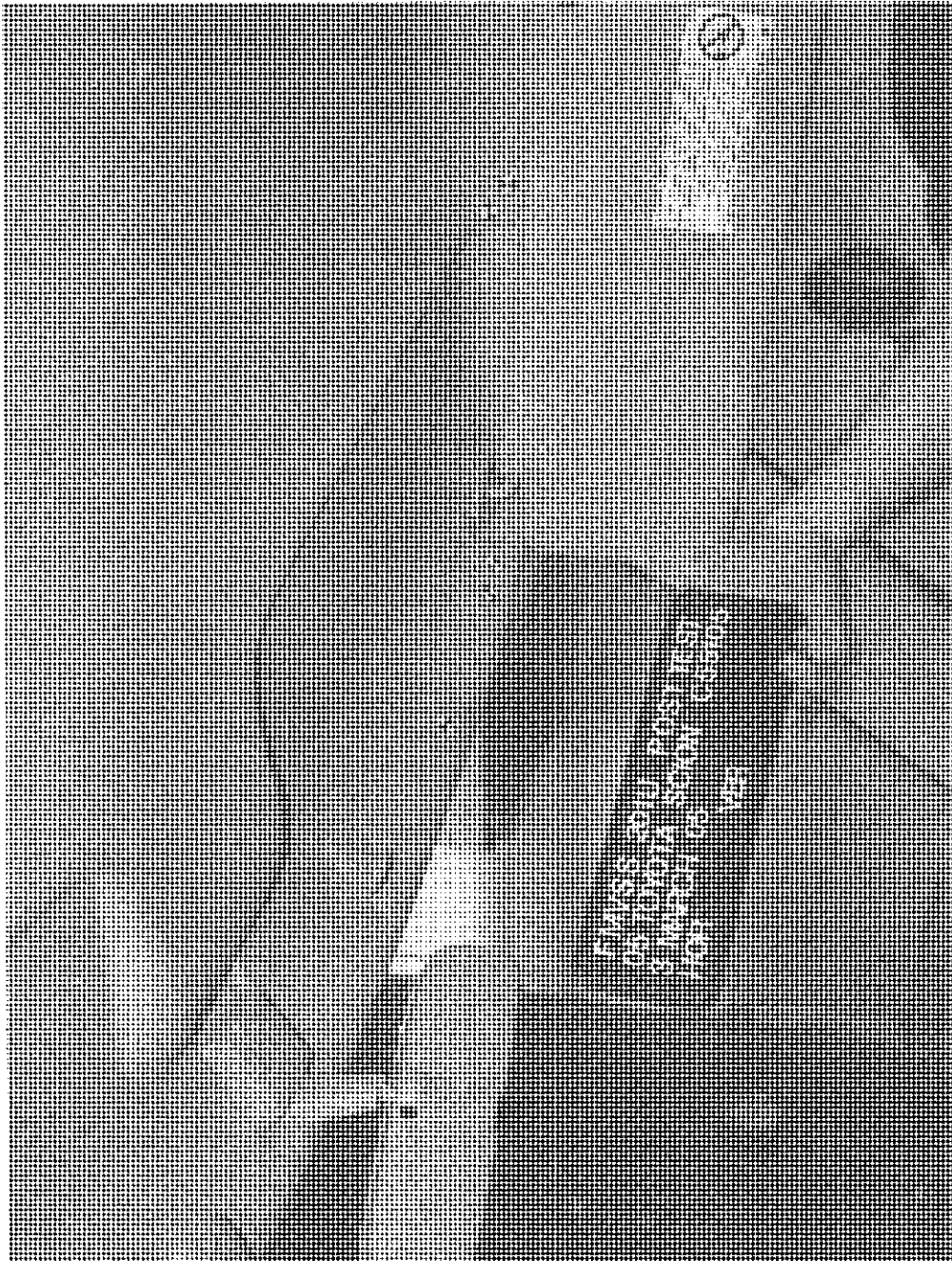


Figure A-26 : POST-TEST PASSENGER SIDE FRONT HEADER

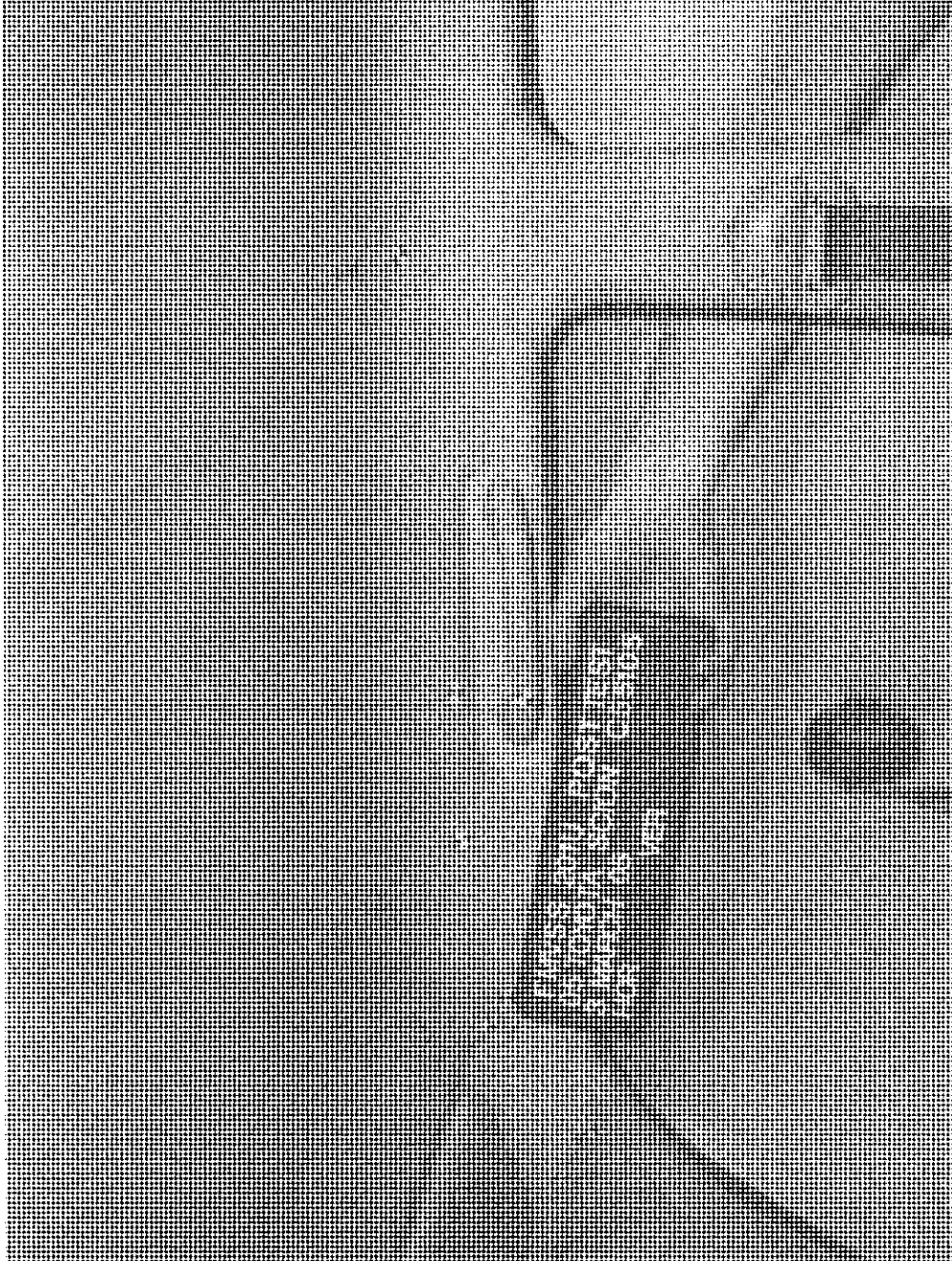


Figure A-27. POST-TEST PASSENGER SIDE SIDE RAIL



Figure A-28 : POST-TEST PASSENGER SIDE B-PILLAR

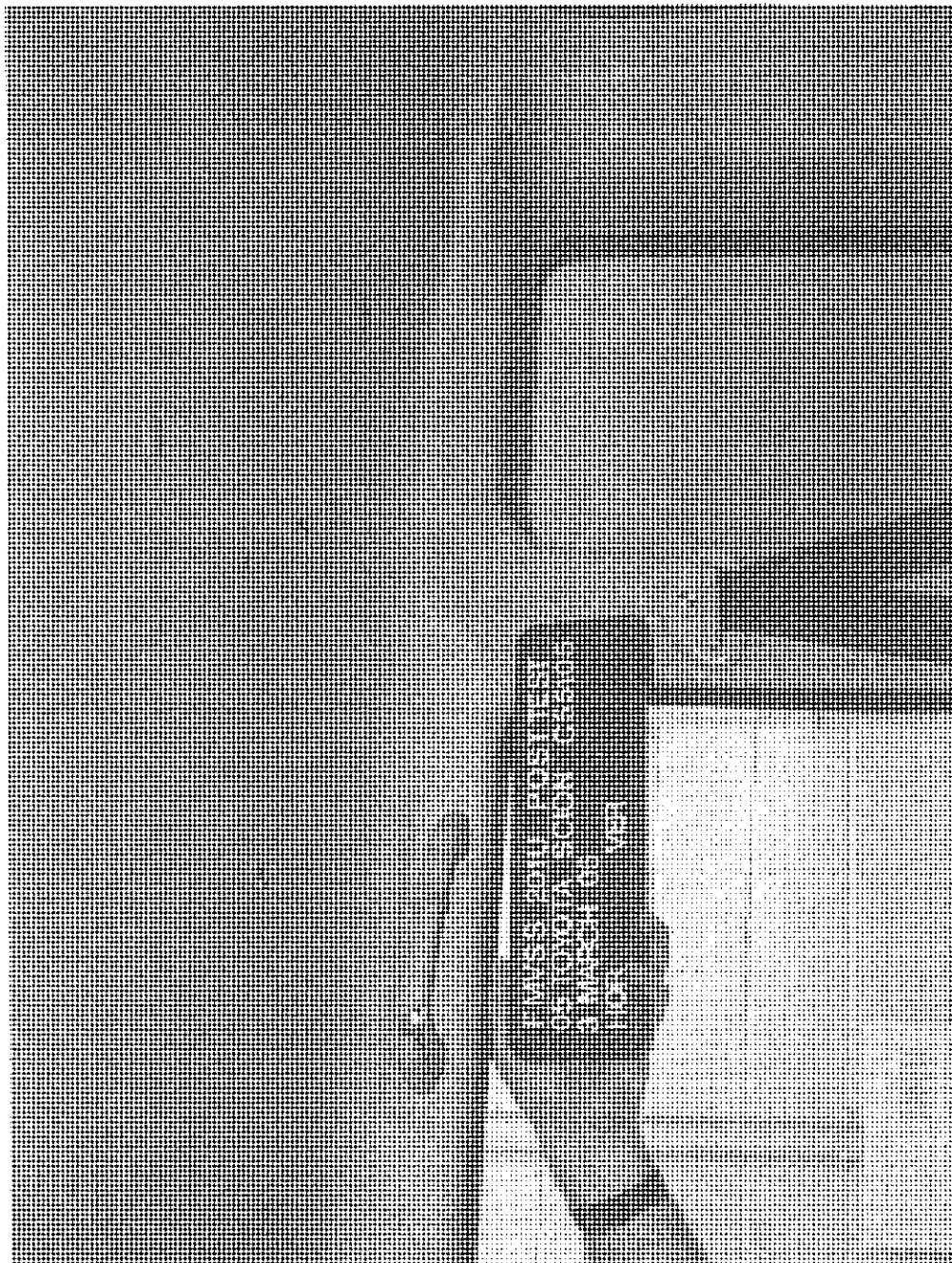


Figure A-29 : POST-TEST PASSENGER SIDE OTHER PILLAR

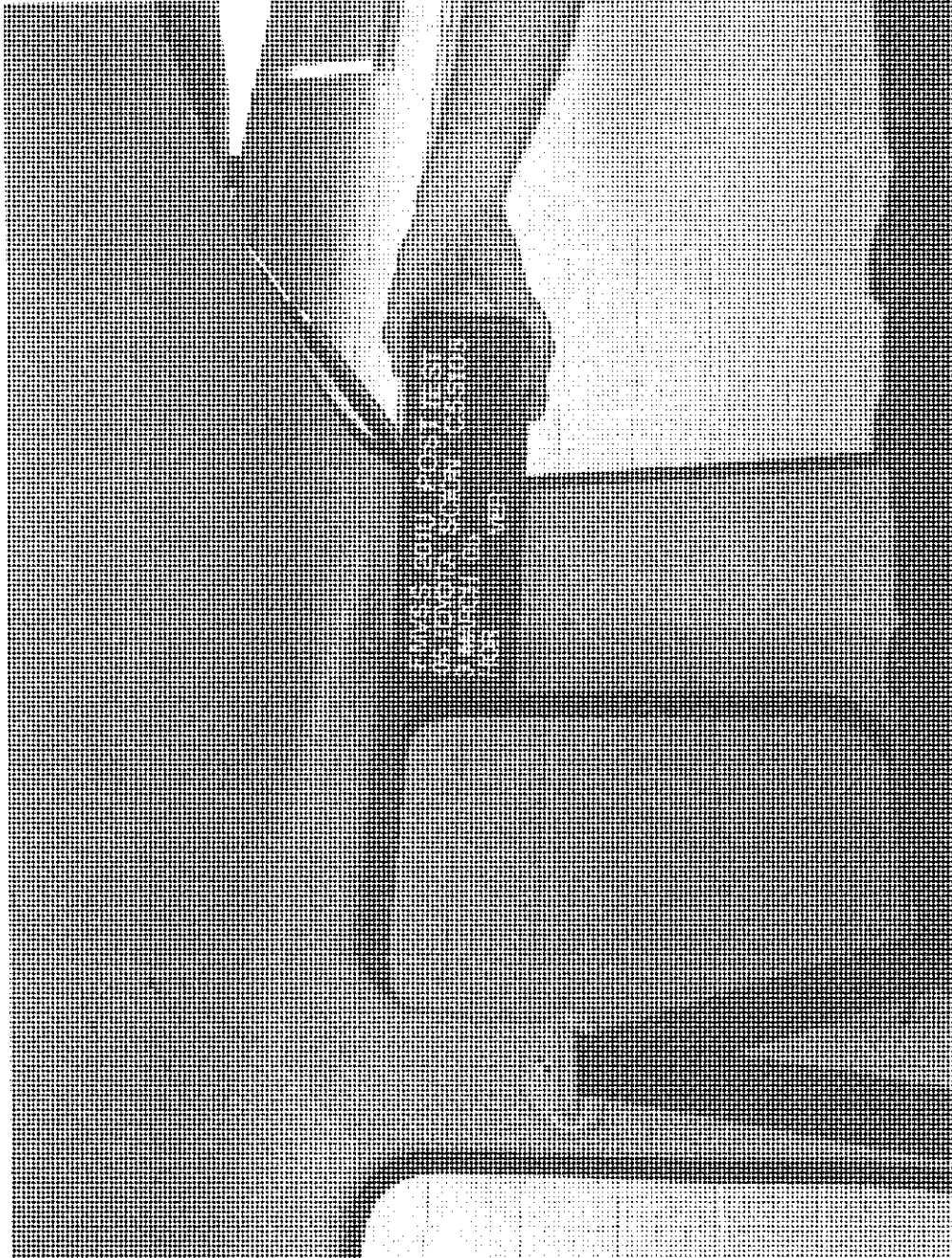


Figure A-30 : POST TEST PASSENGER SIDE REAR PILLAR

APPENDIX B

PART 572L PERFORMANCE CALIBRATION IN SUPPORT OF VEHICLE SAFETY COMPLIANCE TESTING FOR OCCUPANT PROTECTION IN INTERIOR IMPACT

Appendix B contains the results from certification tests performed on the Free Motion Headforms utilized in this test program. The results indicate that the headforms meet all of the performance specifications given in 49 CFR Part 572 Subpart L.

The tests were conducted at the Dummy Certification Test Facility of Calspan Corporation. A summary of the test results are included in this Appendix.

**PART 572L
HEAD DROP PRE-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS
SERIAL NUMBER:		0062
CALIBRATION DATE:		February 25, 2005
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	19°C to 26°C	23.0
RELATIVE HUMIDITY	10% to 70%	17.8
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs	242.0
PEAK LATERAL ACCELERATION	15 Gs Maximum	11.0
IS ACCELERATION CURVE UNIMODAL?	YES	YES

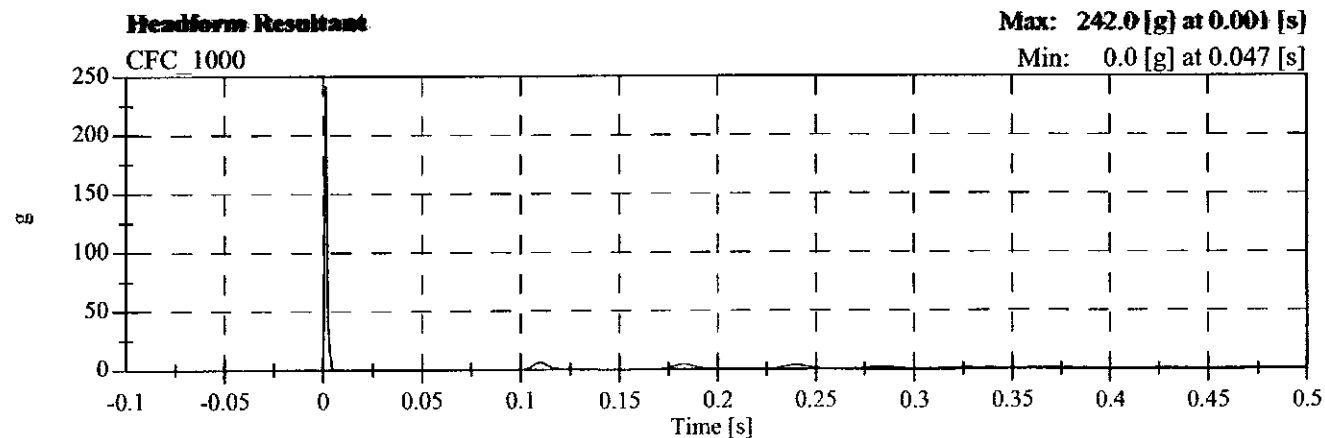
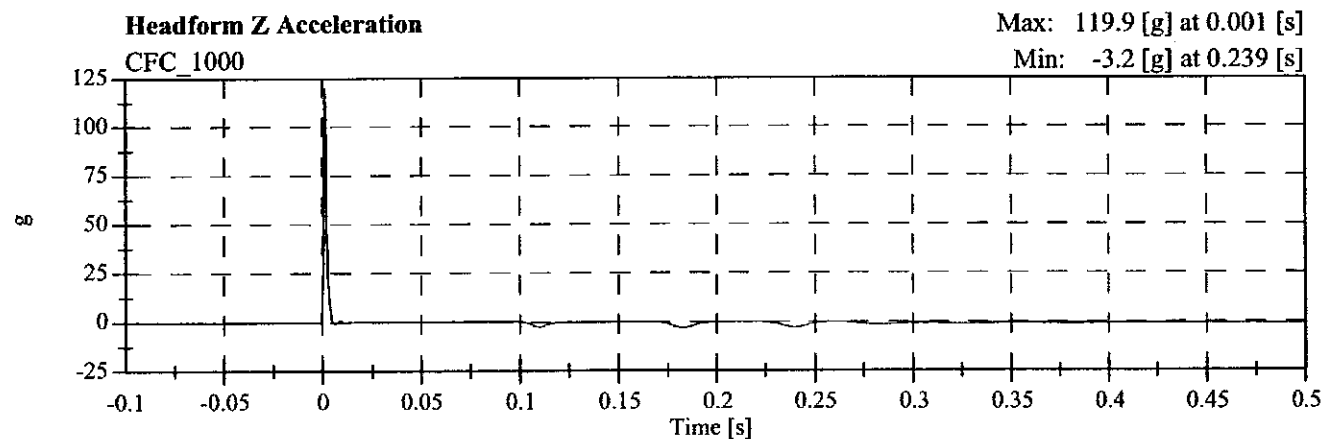
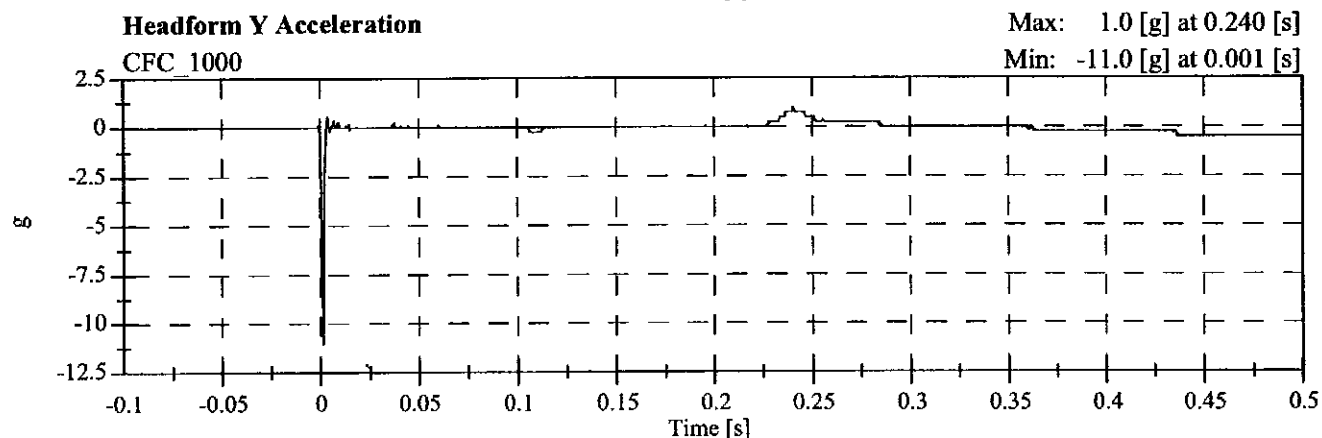
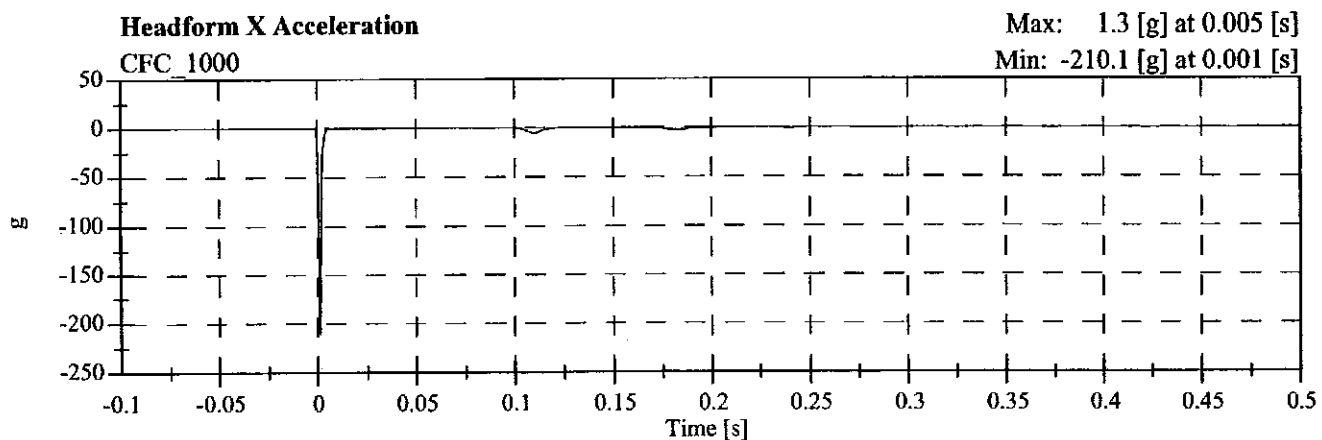
HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J33127	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J33019	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J32782	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH0062 - February 25, 2005



**PART 572L
HEAD DROP PRE-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		0355	
CALIBRATION DATE:		February 25, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		23.0
RELATIVE HUMIDITY	10% to 70%		17.8
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		240.9
PEAK LATERAL ACCELERATION	15 Gs Maximum		6.4
IS ACCELERATION CURVE UNIMODAL?	YES		YES

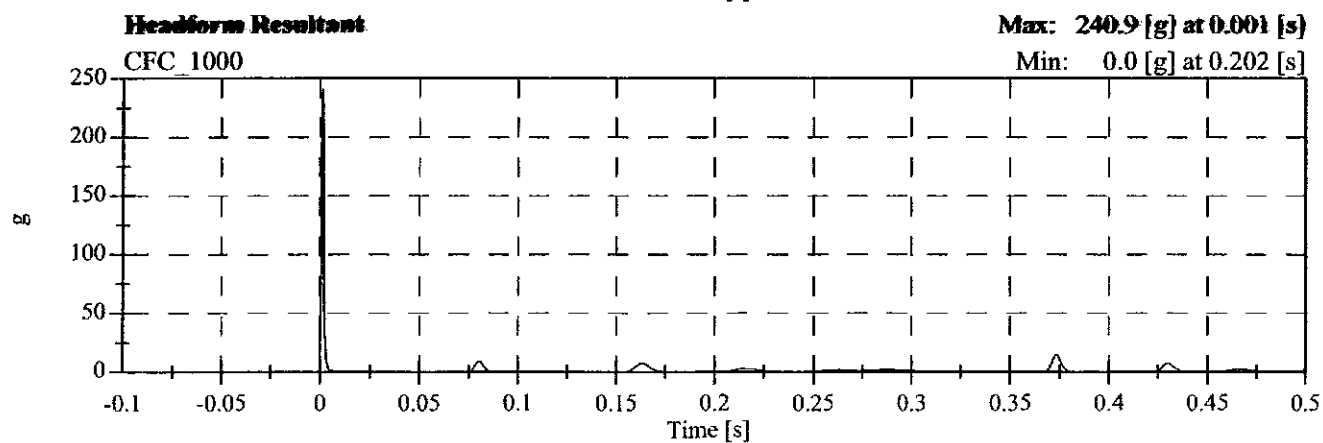
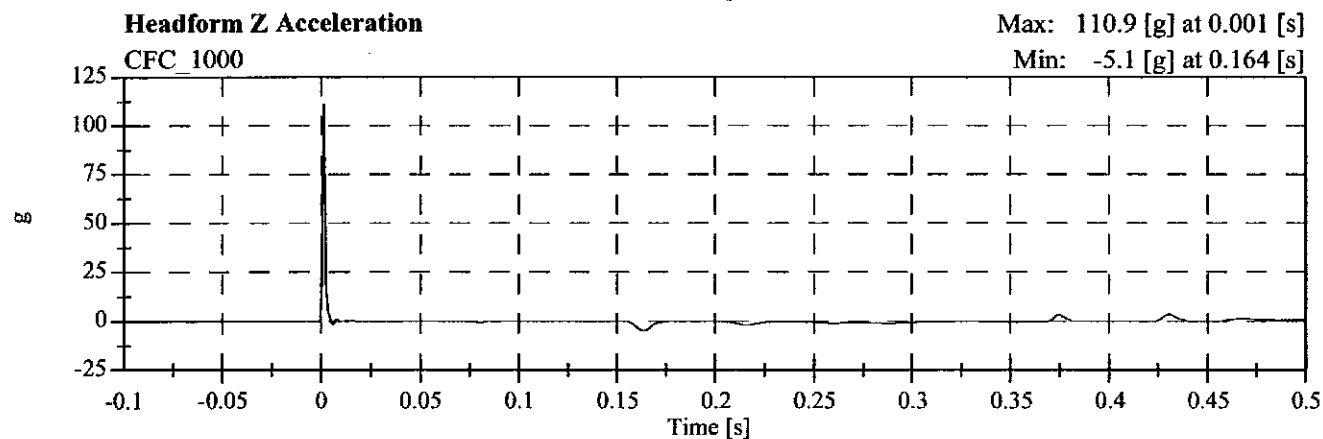
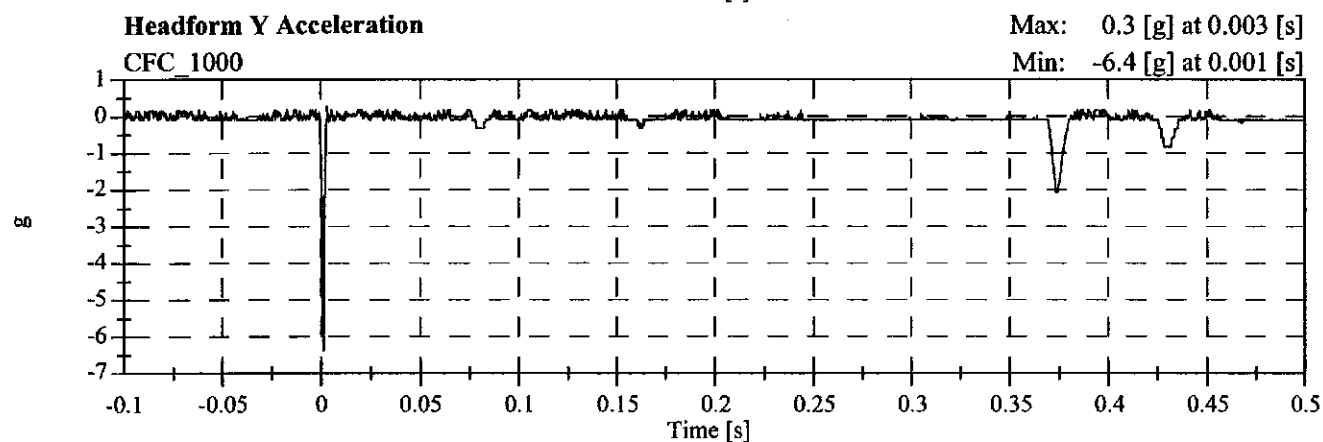
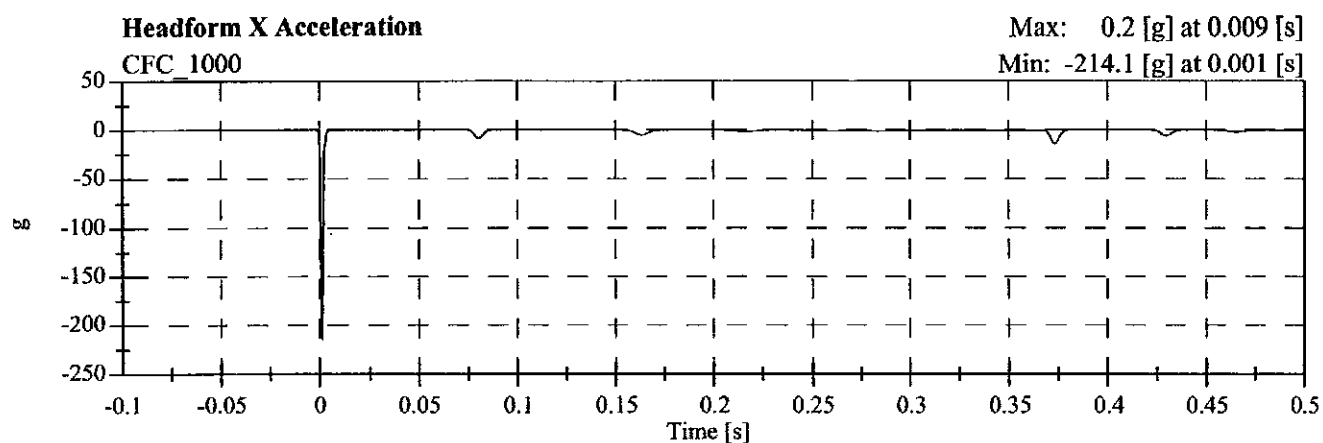
HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J28671	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J32779	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J25854	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH0355 - February 25, 2005



**PART 572L
HEAD DROP PRE-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		0642	
CALIBRATION DATE:		February 25, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		23.0
RELATIVE HUMIDITY	10% to 70%		17.8
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		262.7
PEAK LATERAL ACCELERATION	15 Gs Maximum		5.6
IS ACCELERATION CURVE UNIMODAL?	YES		YES

HEAD ACCELEROMETER CALIBRATION INFORMATION

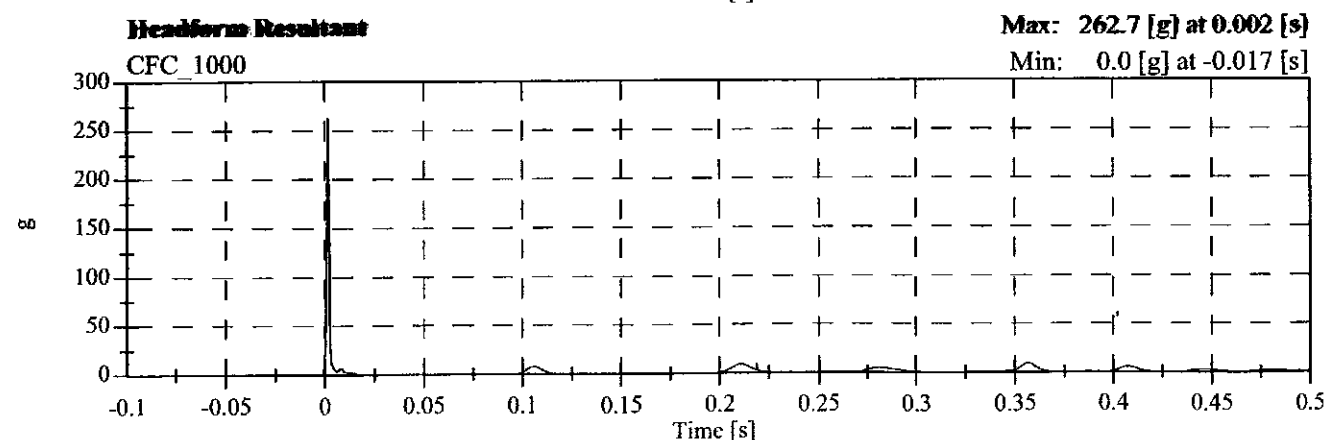
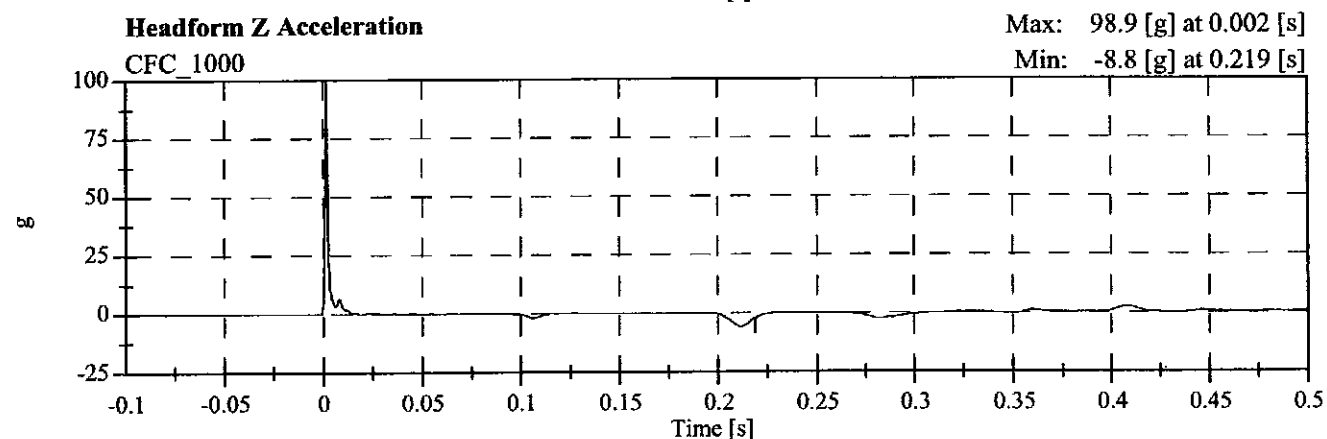
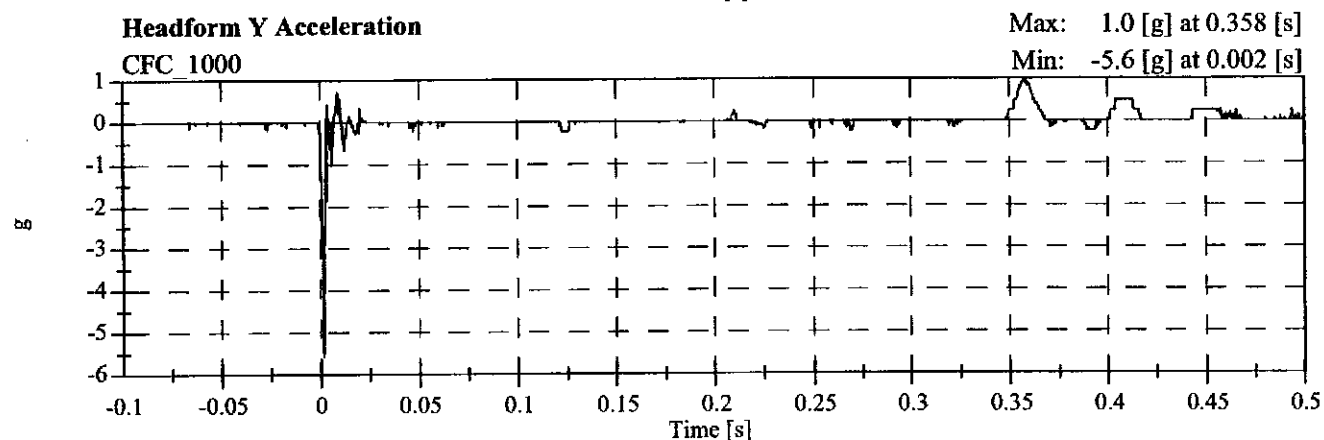
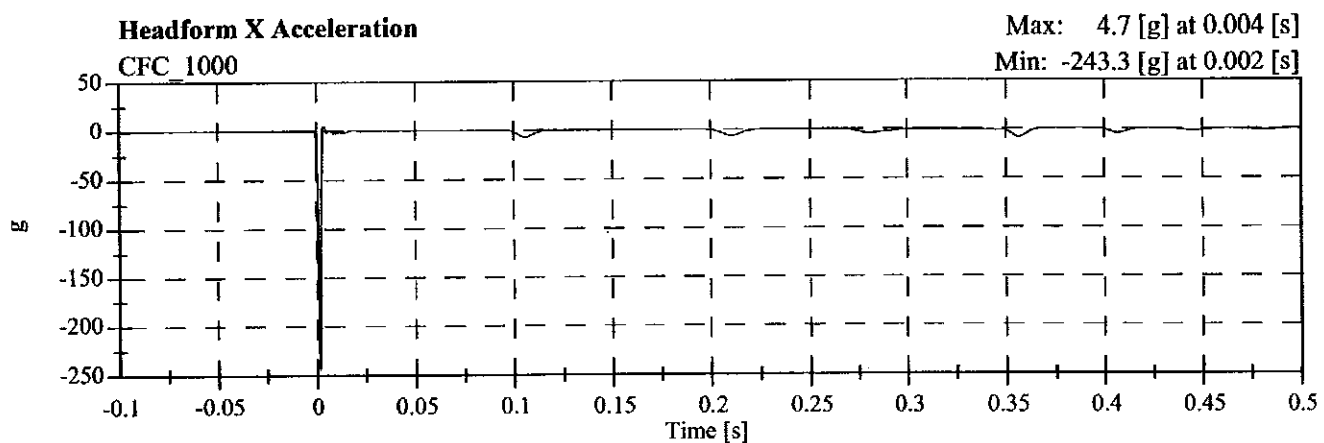
I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J24876	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J33030	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J31009	10/06/2004	04/06/2005

REMARKS:

8754-FMH-03

FMVSS 201U - Headform Calibration Drops

FMH0642 - February 25, 2005



**PART 572L
HEAD DROP PRE-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		805	
CALIBRATION DATE:		February 25, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		23.0
RELATIVE HUMIDITY	10% to 70%		17.8
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		242.8
PEAK LATERAL ACCELERATION	15 Gs Maximum		12.0
IS ACCELERATION CURVE UNIMODAL?	YES		YES

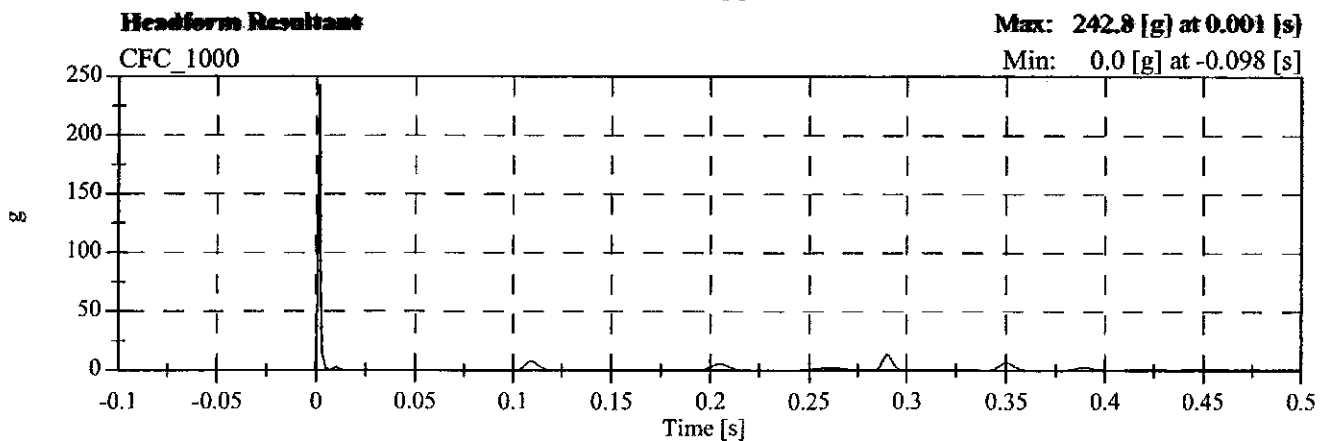
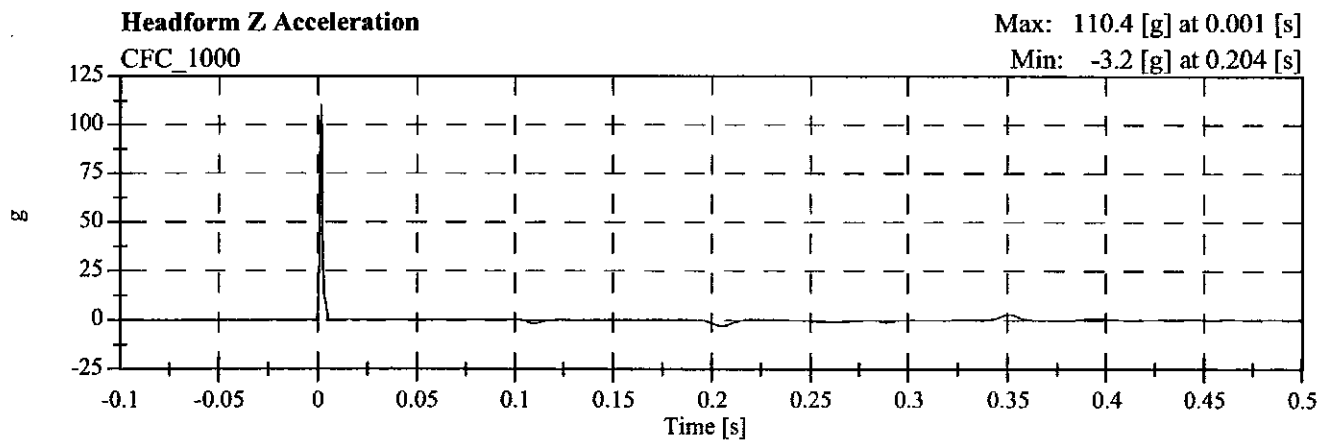
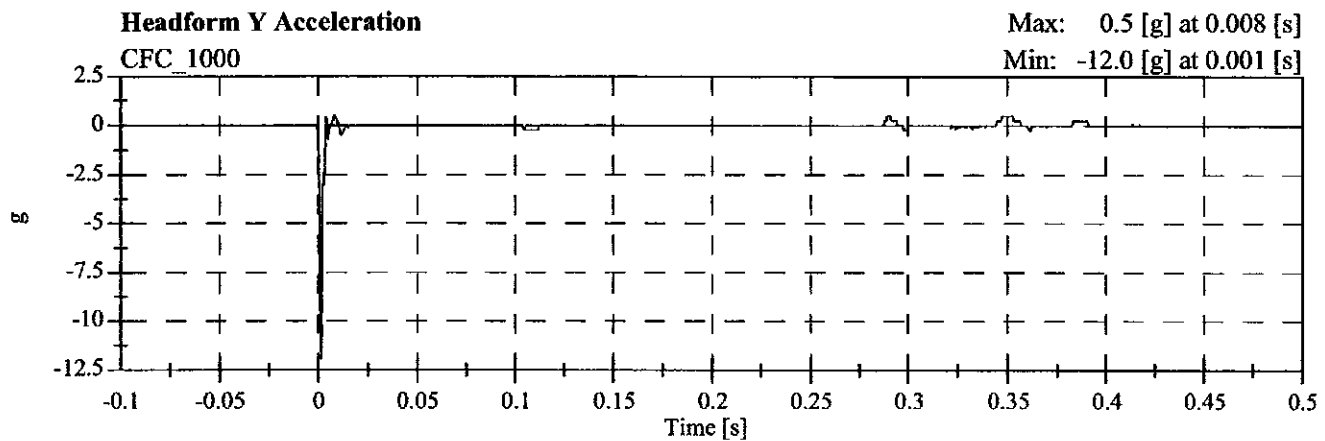
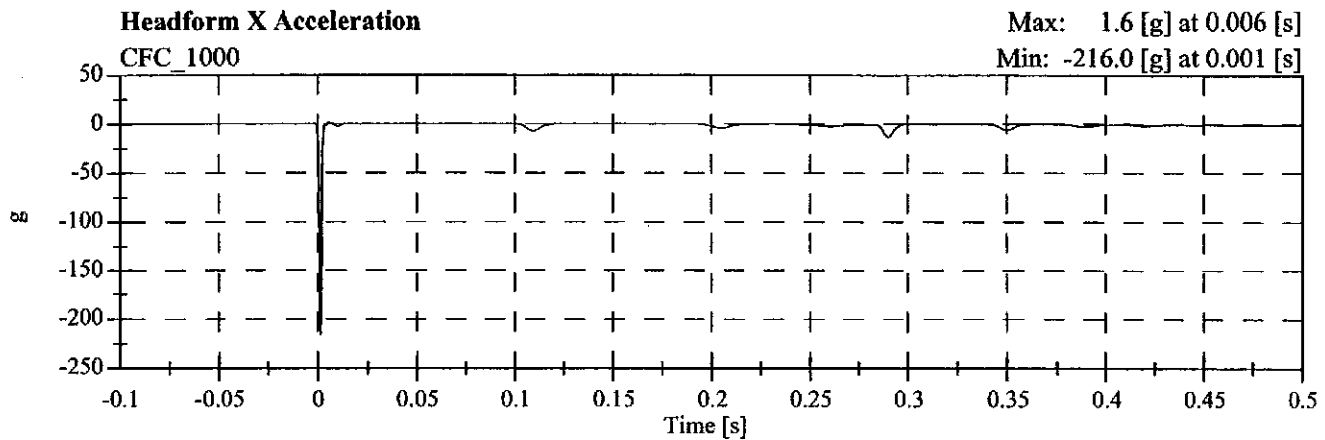
HEAD ACCELEROMETER CALIBRATION INFORMATION

LD. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J38127	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J37980	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J37854	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH0805 - February 25, 2005



**PART 572L
HEAD DROP PRE-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		1255	
CALIBRATION DATE:		February 25, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		23.0
RELATIVE HUMIDITY	10% to 70%		17.8
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		241.7
PEAK LATERAL ACCELERATION	15 Gs Maximum		1.3
IS ACCELERATION CURVE UNIMODAL?	YES		YES

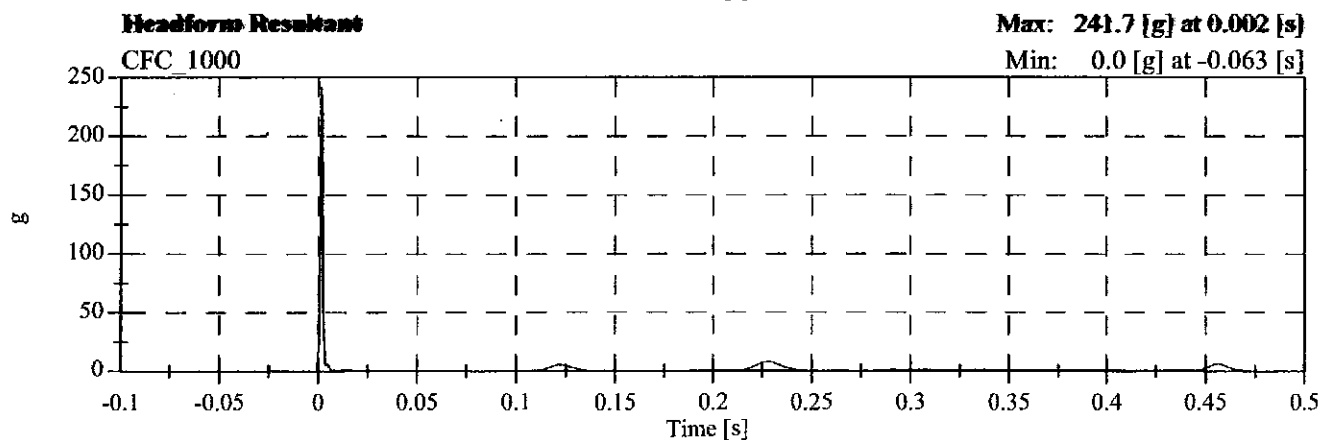
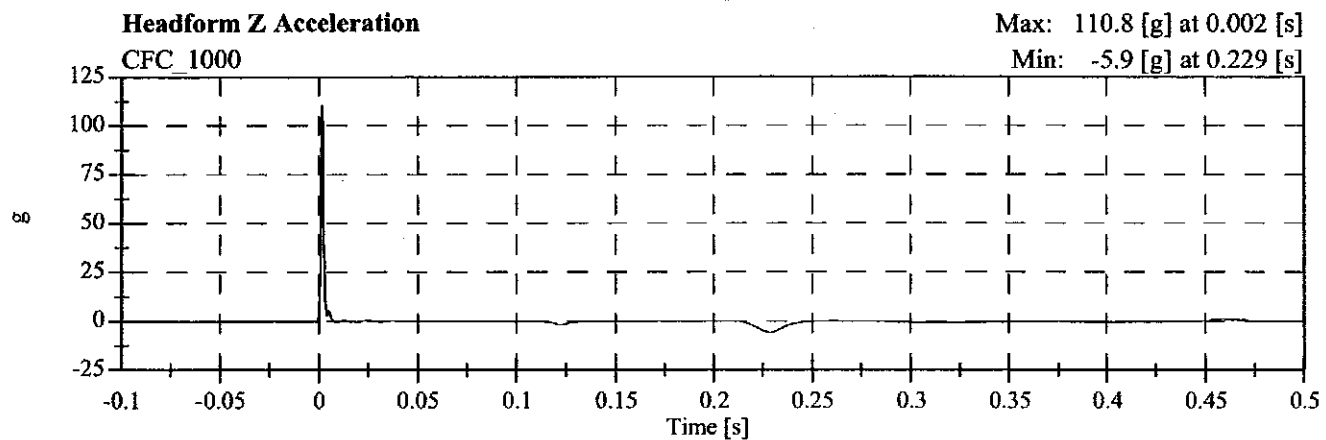
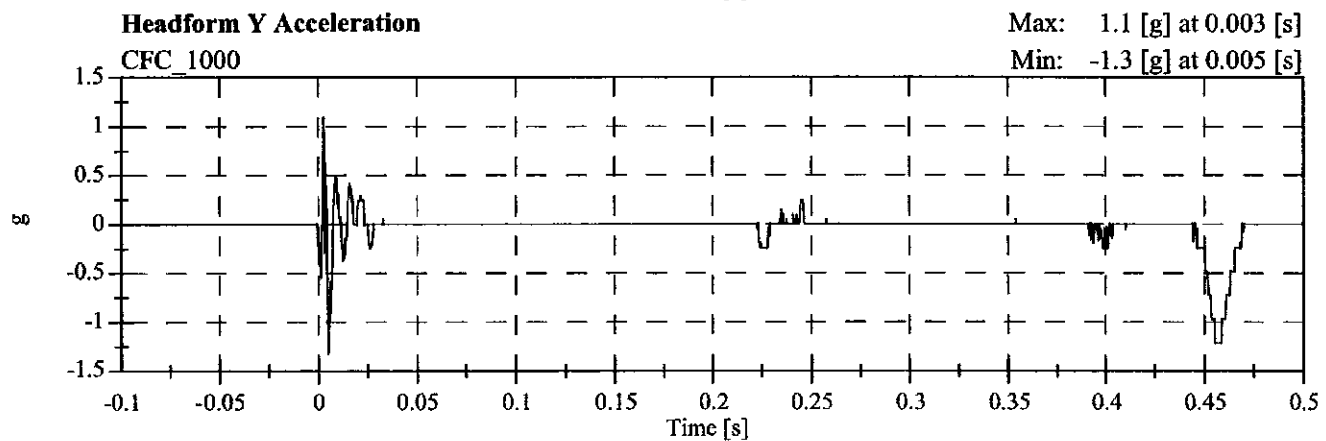
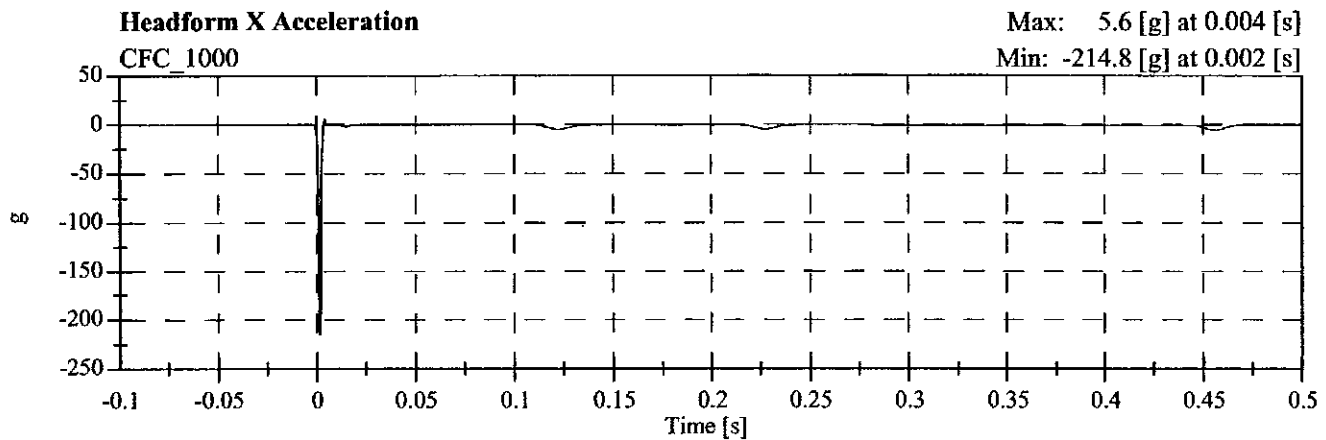
HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J41006	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J40994	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J41007	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH1255 - February 25, 2005



**PART 572L
HEAD DROP POST-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		0062	
CALIBRATION DATE:		March 10, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		21.7
RELATIVE HUMIDITY	10% to 70%		32
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		227.7
PEAK LATERAL ACCELERATION	15 Gs Maximum		11.5
IS ACCELERATION CURVE UNIMODAL?	YES		YES

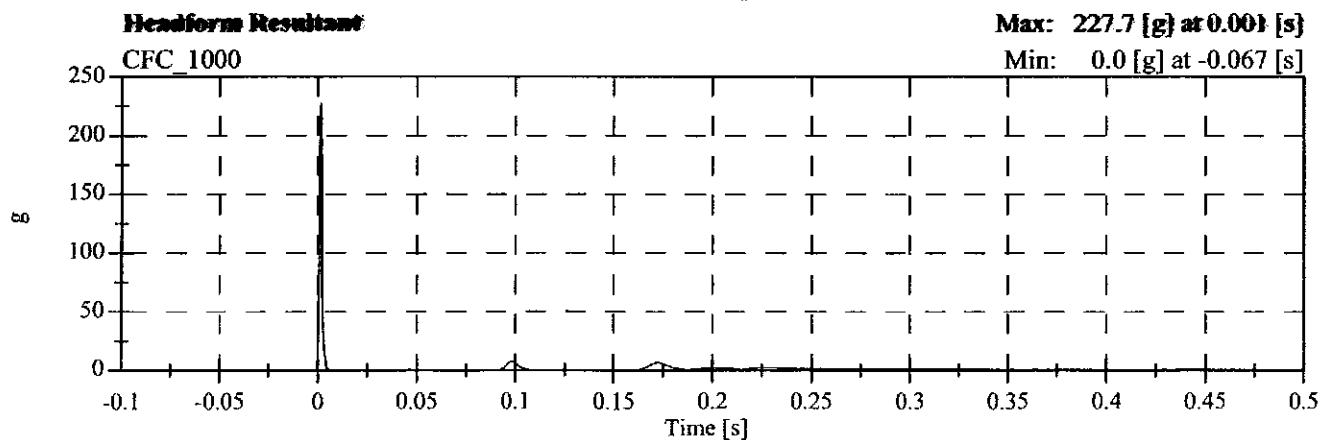
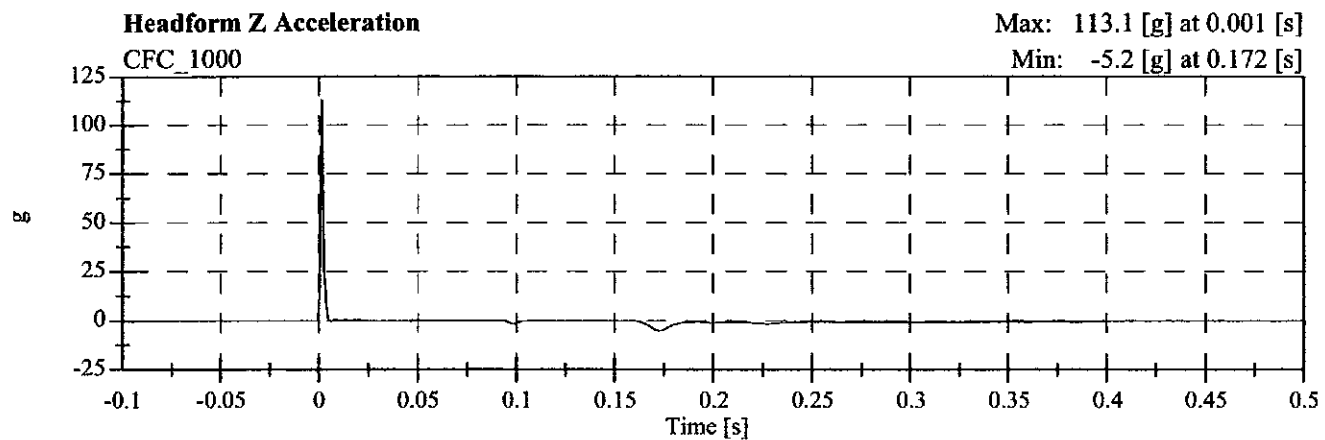
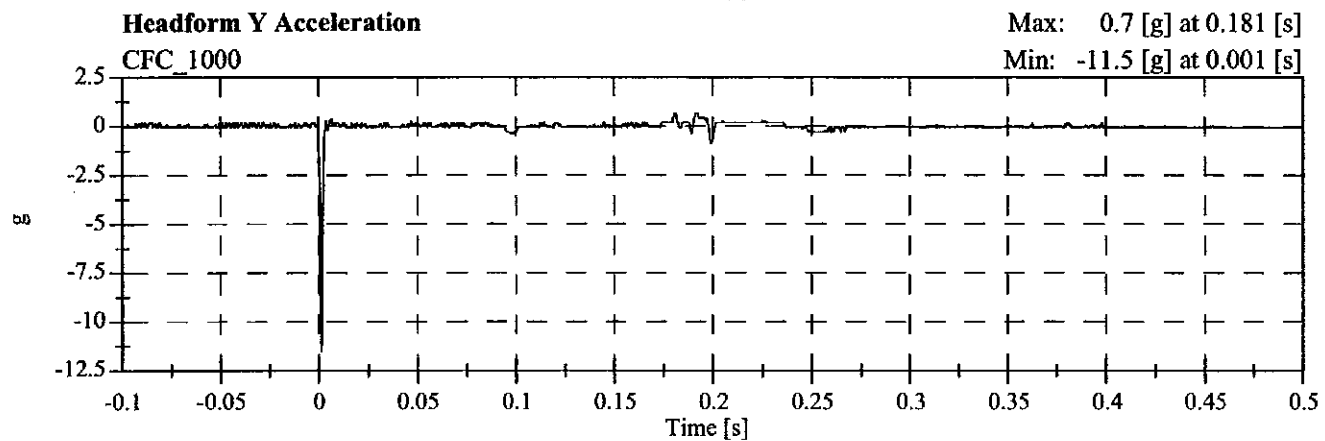
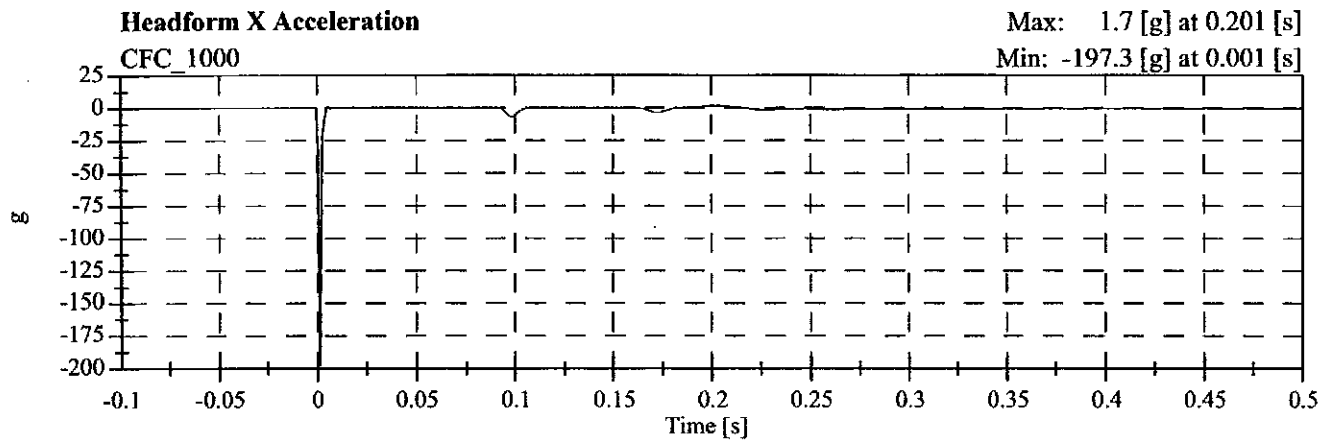
HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J33127	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J33019	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J32782	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH0062 - March 10, 2005



**PART 572L
HEAD DROP POST-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		0355	
CALIBRATION DATE:		March 10, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		21.7
RELATIVE HUMIDITY	10% to 70%		32
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		236.5
PEAK LATERAL ACCELERATION	15 Gs Maximum		5.3
IS ACCELERATION CURVE UNIMODAL?	YES		YES

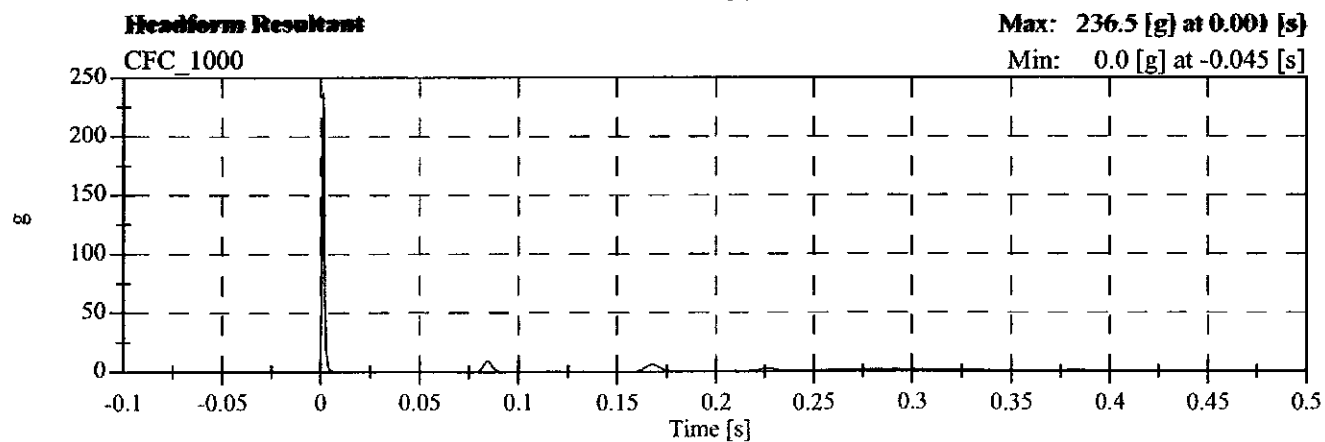
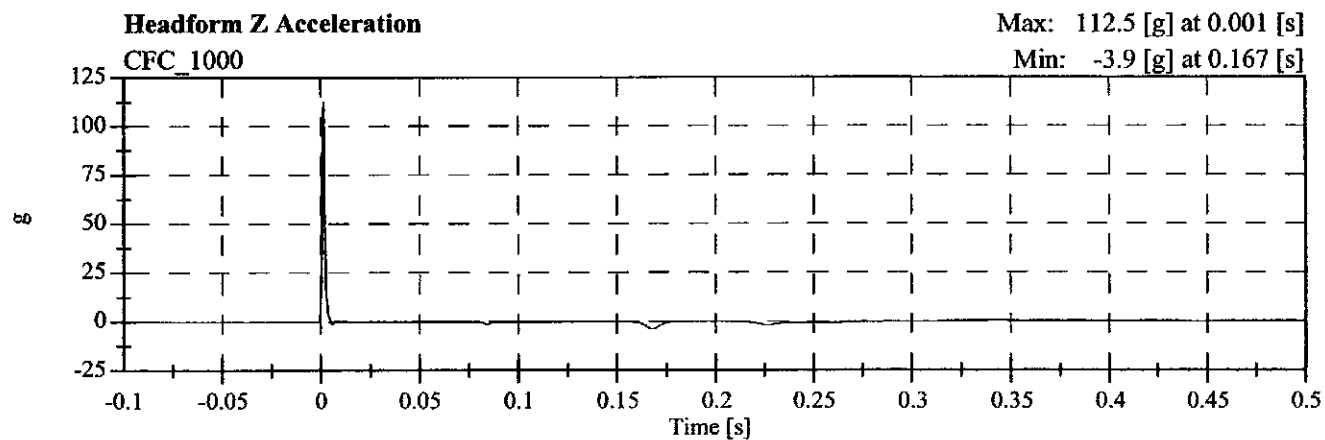
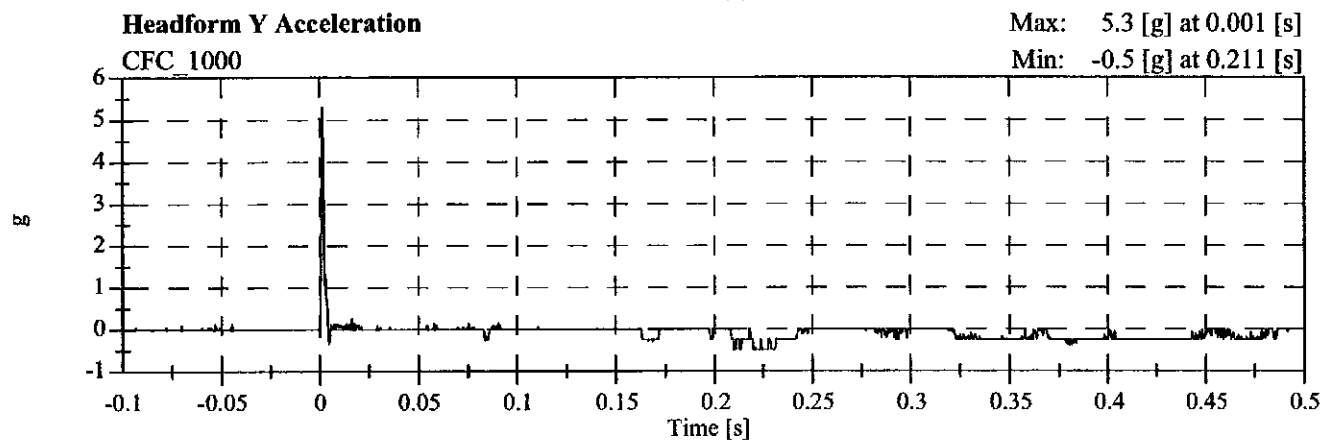
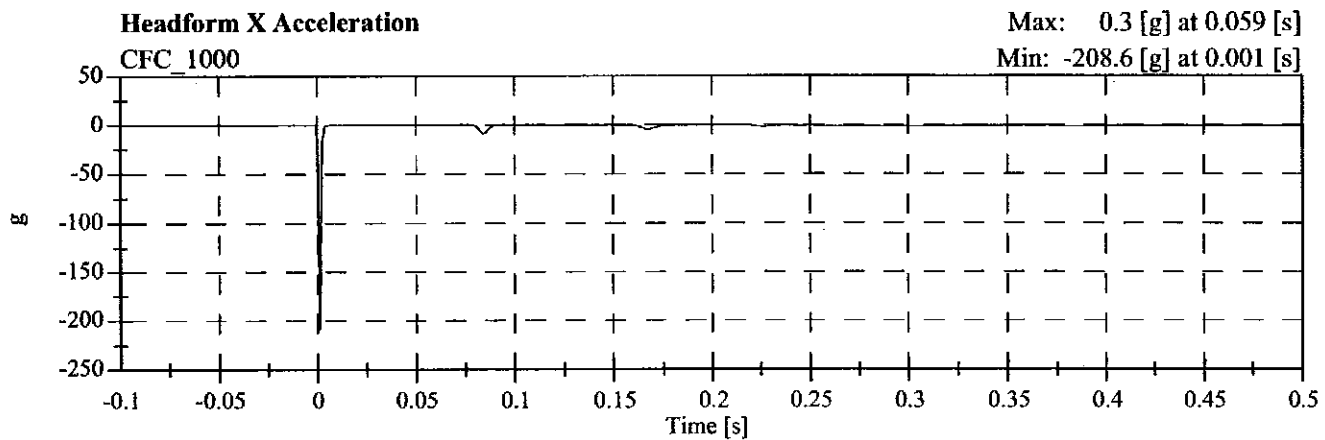
HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J28671	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J32779	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J25854	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH0355 - March 10, 2005



**PART 572L
HEAD DROP POST-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		0642	
CALIBRATION DATE:		March 10, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		21.7
RELATIVE HUMIDITY	10% to 70%		32
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		254.5
PEAK LATERAL ACCELERATION	15 Gs Maximum		10.4
IS ACCELERATION CURVE UNIMODAL?	YES		YES

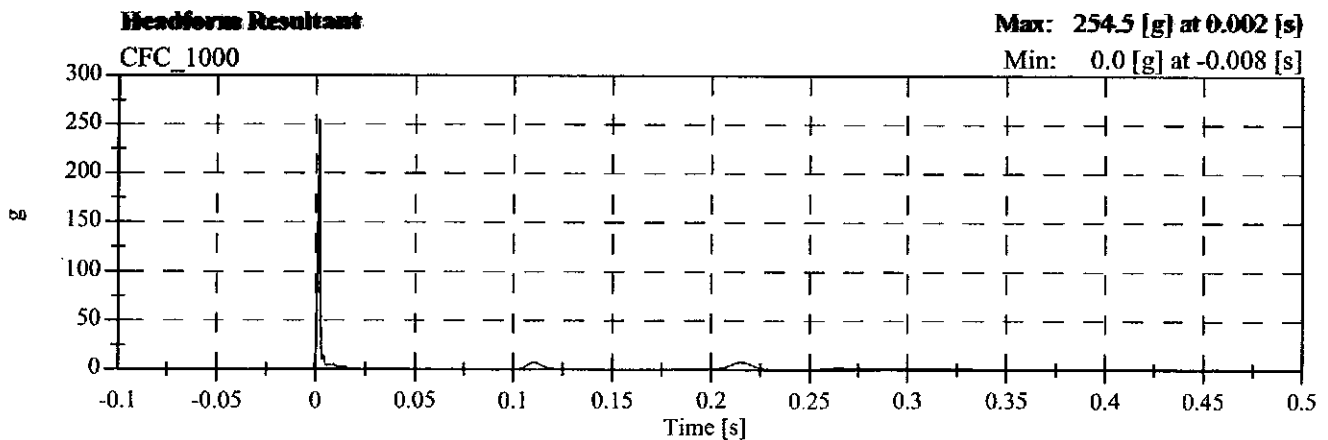
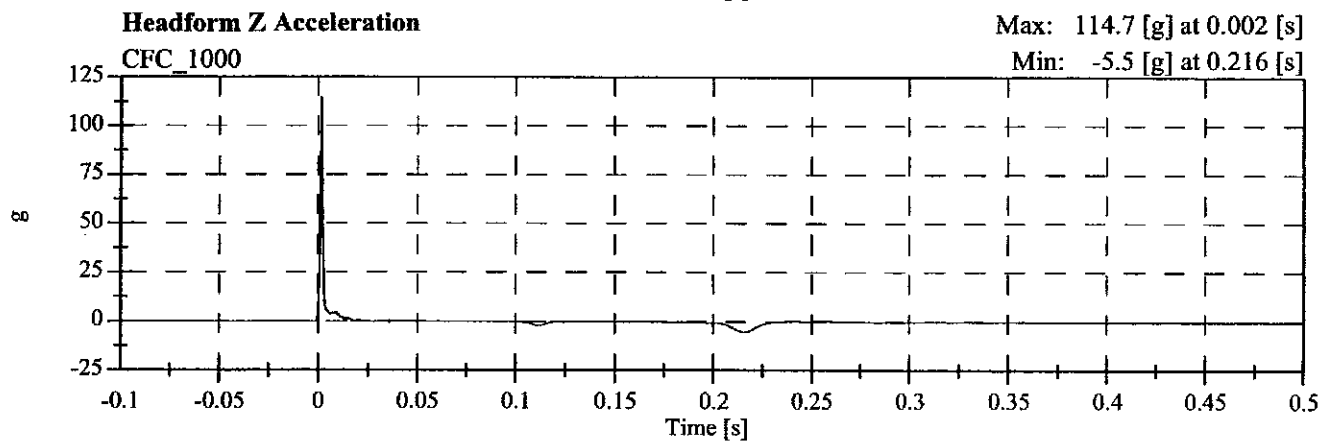
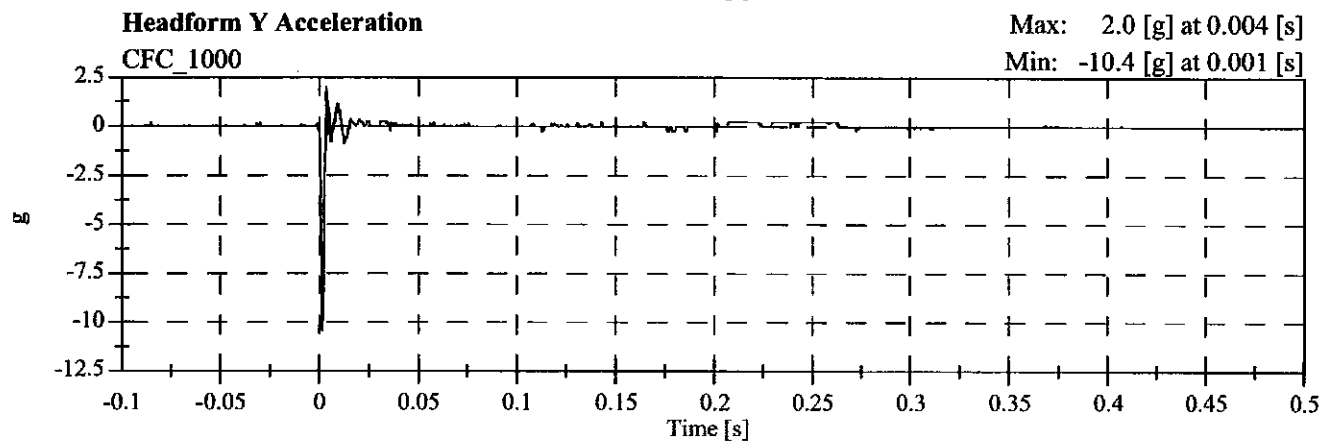
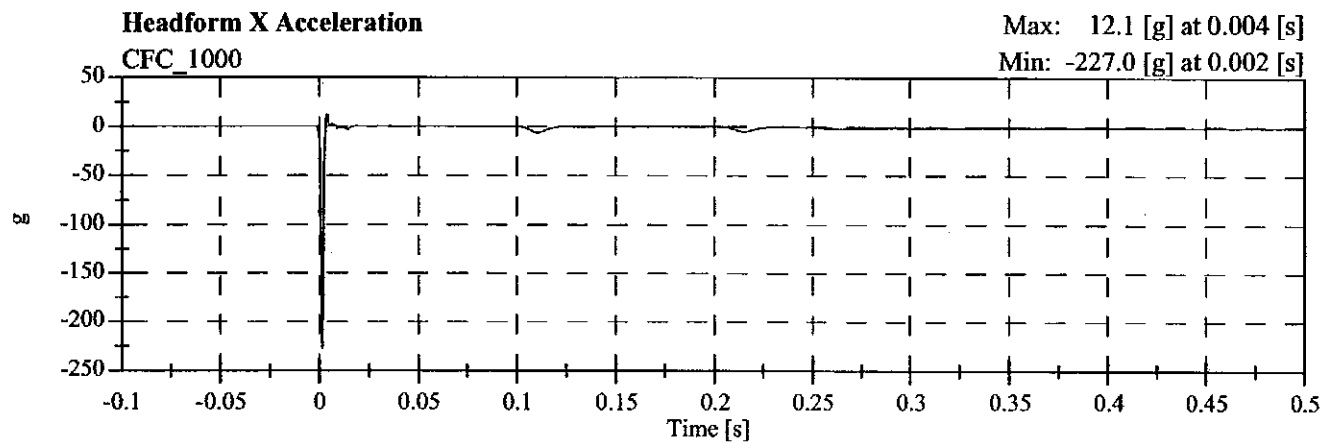
HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J24876	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J33030	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J31009	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH0642 - March 10, 2005



**PART 572L
HEAD DROP POST-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		805	
CALIBRATION DATE:		March 10, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		21.7
RELATIVE HUMIDITY	10% to 70%		32
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		230.6
PEAK LATERAL ACCELERATION	15 Gs Maximum		10.2
IS ACCELERATION CURVE UNIMODAL?	YES		YES

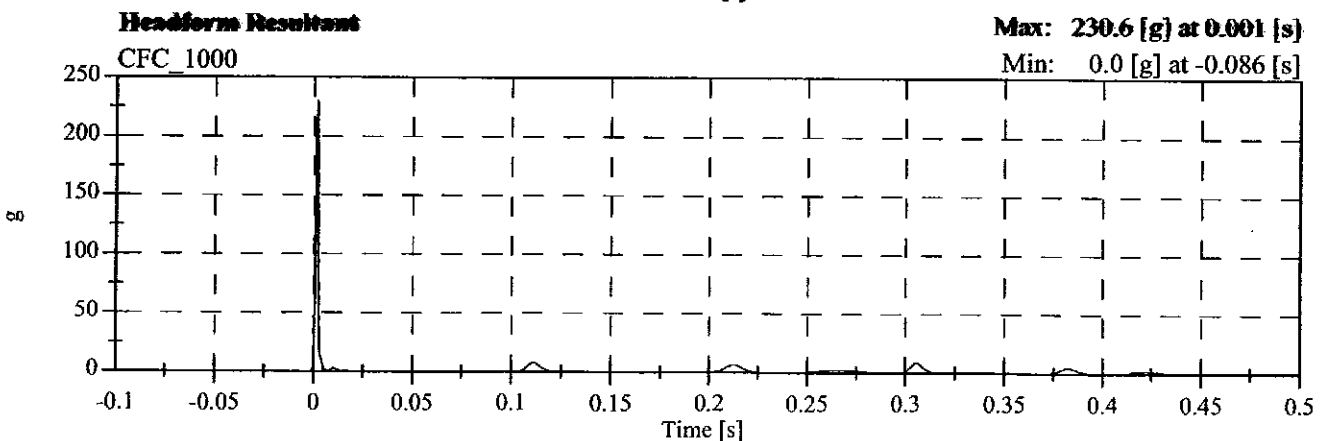
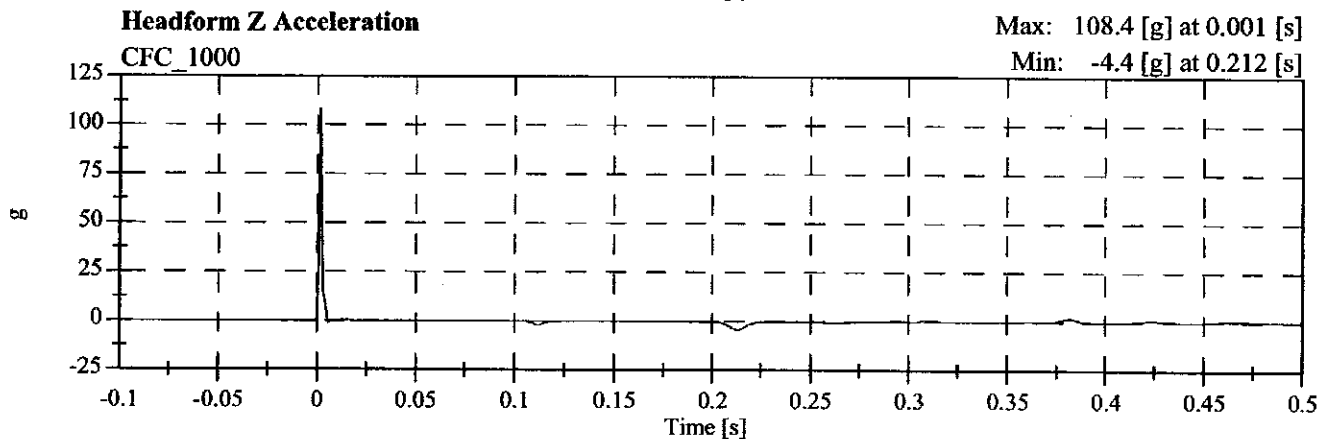
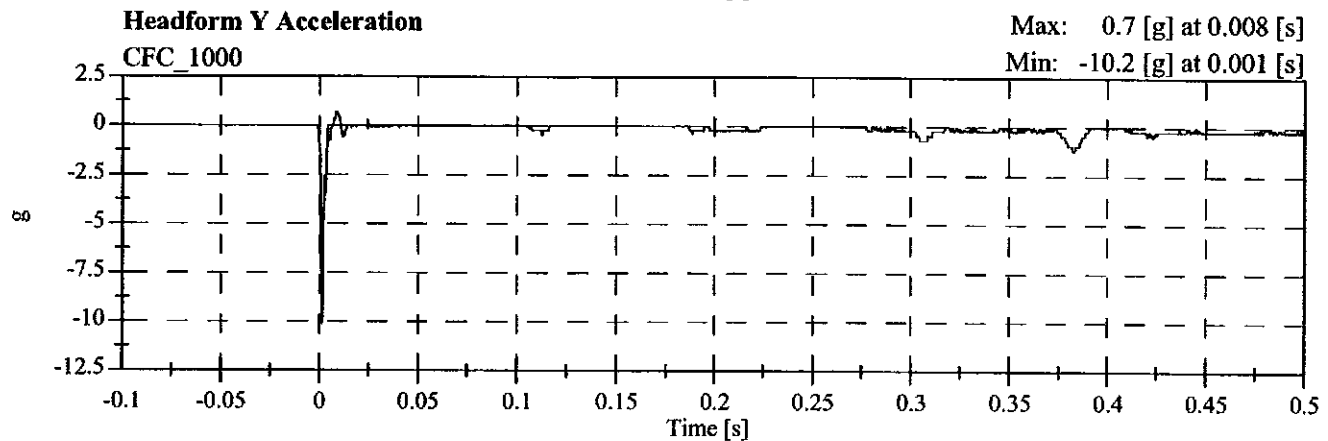
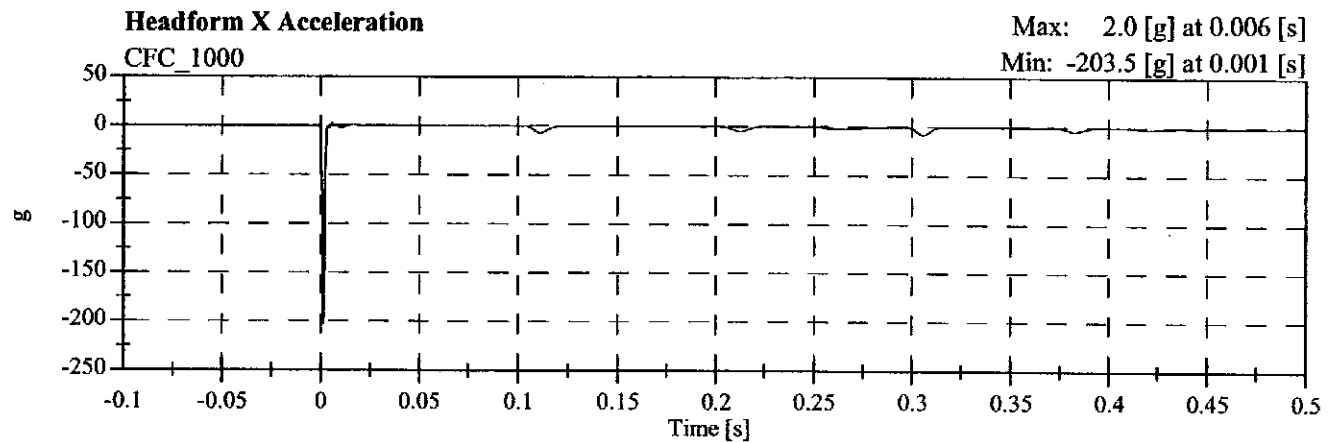
HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J38127	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J37980	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J37854	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH0805 - March 10, 2005



**PART 572L
HEAD DROP POST-TEST**

MANUFACTURER:		FIRST TECHNOLOGIES SAFETY SYSTEMS	
SERIAL NUMBER:		1255	
CALIBRATION DATE:		March 10, 2005	
TEST PARAMETER	SPECIFICATION		TEST RESULTS
TEMPERATURE	19°C to 26°C		21.7
RELATIVE HUMIDITY	10% to 70%		32
PEAK RESULTANT ACCELERATION	225 Gs to 275 Gs		257.3
PEAK LATERAL ACCELERATION	15 Gs Maximum		2.7
IS ACCELERATION CURVE UNIMODAL?	YES		YES

HEAD ACCELEROMETER CALIBRATION INFORMATION

I.D. NUMBER	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	DATE OF LAST CALIBRATION	DATE OF NEXT CALIBRATION
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J41006	10/06/2004	04/06/2005
2 - LATERAL	ENDEVCO	7264-2000T	J40994	10/06/2004	04/06/2005
3 - VERTICAL	ENDEVCO	7264-2000T	J41007	10/06/2004	04/06/2005

REMARKS:

FMVSS 201U - Headform Calibration Drops

FMH1255 - March 10, 2005

